Five

The Chronology of Mesopotamia, ca. 7000–1600 B.C.

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Outline

The chronological divisions used in the 1965 edition of *Chronologies of Old World Archaeology* are retained here and only changes necessitated by new information were made. Restrictions of space imposed limitations on the selection of sites and bibliographical references. Unless otherwise indicated, radiocarbon dates cited in the text are based on the most recent calibrations, as described in the introduction to this book.

The dates for the historical periods are dependent on the so-called Middle Chronology, which is retained here in favor of the chronology suggested by Huber based on new computations concerning the text recording observations of the Venus star and dated in the reign of the next to last Babylonian king, Ammiṣaduqa (Huber 1982). About this text Pingree said that it "has undergone a considerable process of expansion and corruption, prior to being inscribed on the tablets available to us" (Reiner and Pingree 1975:25). Therefore, the text does not appear to us to be sufficiently reliable for adopting the "Huber dates" for this book, which anyhow aims at relative rather than absolute dates.

Introduction

Geography

Mesopotamia—modern Iraq—may be divided into the mountains, foothills, and steppes of the northeast, generally referred to here as the north, and the central and southern lowland, here called the south (see fig. 1). The mountains are a part of the belt that extends from the Zagros to the Taurus and rises to its highest points along the frontiers of Iraq with Iran and with Turkey. The mountain ridges with narrow valleys between them decrease in height, whereas the distance between them increases as one moves south from the frontier, so that the Assyrian piedmont consists of widely separated ridges or hills.

The Mesopotamian Plain is composed of several regions; the northern one consists of good rain-fed farming land, while the central and southern sectors receive very little rainfall. Here agriculture is possible only by irrigation, for which the topography presents severe limitations. The central plain is an undulating steppe through which the rivers have cut deep troughlike valleys, three or four miles wide at most. These can be irrigated, but a wider expansion of irrigation would necessitate large dams, long canals, or an elaborate lifting system (Oates and Oates 1976:15) Finally, the alluvial plain of the south is flat land and irrigation with the waters of the two rivers is possible, but there are major difficulties: the flooding of the rivers follows the planting season and endangers

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the seedlings, and the large quantities of silt carried and deposited by the rivers result in clogging canals and riverbeds (Oates and Oates 1976:124).

The enormous amount of silt brought down by the two rivers may have also affected the coastline at the head of the gulf. The suggestion made by Lees and Falcon (1952), that the ancient coastline was never very much farther north than today, has been challenged. Recent investigations have shown that around 14,000 B.C. the level of the gulf was some 110 m below present and that it was actually a dry bed through which the original Euphrates and Tigris rivers ran to the Gulf of Oman (Nützel 1978, 1979). Then the sea level rose until it reached its present level around 4000 B.C., after which it continued to rise until around 3500 B.C. to about 3 m above its present level (ibid.). Some researchers have argued for at least 150–200 km of progradation since that time, thus suggesting that the coastline was not far south of Ur-Nasiriya in the fourth and third millennia (Nützel 1978; C. Larsen 1975; Larsen and Evans 1978). However, others cite evidence supporting the Lees and Falcon theory of the balance of subsidence and alluviation (Brice 1978:275). Thus, whether such sites as Ur and Eridu were situated on the sea or not is still uncertain (see discussion by Adams 1981:14–19).

The geography of the country is reflected in its ancient history. Paleolithic man found natural shelters in the caves of the mountains of the northeast; sufficient rainfall made early farming possible in the piedmont foothills of what was later Assyria. These foothills belong to a wide area reaching from Iran to Turkey and Syria; in their valleys farming produced a livelihood for small communities for which pastoralism provided additional sustenance.

Mesopotamian urbanism, the country's most distinctive social achievement, was viewed by Adams as a direct adaptive feature in an ecological sense. He pointed out that cities made possible a greater measure of stability in their dependencies and for their own population than would have been possible otherwise.

Trade and Trade Routes

Mesopotamia, the lack of any raw materials needed for the manufacture of items above the mere level of subsistence—suitable timber, building stone, and metals—stimulated economic activity to provide such items by means of surplus goods for barter and organized trade. In the last three decades the investigation of such trade has become a favored topic of research and discussion. "Trade in the Ancient Near East" (Oppenheim 1970), "Anthropological Perspectives on Ancient Trade" (Adams 1974), "An Overview of Interregional Exchange in Southwest Asia: The Neolithic Obsidian Network, the Assyrian Trading Colonies and a Case for Third Millennium B.C. Trade" (Yener 1982) are among the most informative and thoughtful. The *Rencontre Assyriologique* XXIII, 1976, was also devoted to trade (*Iraq* XXXIX, 1977).

Several land routes were important for Mesopotamian trade to the west. Two routes went north, one along the Diyala River, which then followed the line of the Jebel Himrin to cross the Tigris at Assur (D. Oates, 1968b:5–8). The other route went north along the Tigris to the Mosul area, the onetime heartland of Assyria, and from there across the Sinjar to the Syrian towns of Harran or Aleppo and the sea. During dry, hot months the route moved as far north as Mardin-Urfa, and even Diabekr. Klengel (1977:163–64) stressed especially the route from the middle Euphrates valley near Mari along the oases with groundwater to Tadmor-Palmyra and from there to the middle Syrian agricultural area near Qatna. The central caravan route went from Iran through the east Tigris area, especially through the Diyala region (Klengel 1977:164). Along these routes traveled the objects that indicate contact between regions and suggest contemporaneity which serves as an aid to chronological determinations.

Shipping was the preferred means of transportation of goods destined not only for southern Mesopotamia but also as much as possible for the north (Hallo 1964: *passim;* De Graeve 1981; Qualls 1981). Salonen called the Euphrates and the Tigris the main arteries of Mesopotamia (Salonen 1939: foreword). By the middle of the third millennium B.C. seafaring in the Persian-Arabian Gulf and the Arabian Sea seems to have extended to the coast of Oman, ancient Magan, and perhaps to Baluchistan, ancient Melukha (Oppenheim 1954:14–15). By the end of the third and beginning of the second millennium B.C. the distance covered by Mesopotamian ships seems to have been reduced. Merchant ships from Ur went to Dilmun, modern Bahrain. Dilmun appears as the mercantile emporium of that period, with commodities from farther east reaching Mesopotamia and perhaps even Egypt via the sea route (Porada 1982:291).

The earliest recognizable import in the north was obsidian, volcanic glass, which was used for tools. Large amounts were found at the Pre-Pottery Neolithic site of Maghzaliyah on the southern slopes of the Sinjar spurs. The sources of this obsidian were several sites in Anatolia hundreds of kilometers northwest of Maghzaliyah and Umm Dabaghiyah where some obsidian tools were found (Kirkbride 1982:18).

Imports also comprised metals (Moorey 1985), mainly copper (Muhly 1973:1977), and stone-worked artifacts. A more detailed and focused analysis carried out with early copper objects from Iran and Mesopotamia (Bertholoud 1979) indicates different ore sources for Mesopotamian sites, specifically Oman, as a source for the cop-

per found at Ur, and sources on the Iranian plateau, such as probably Anarak, for the copper of the sites in the Himrin.

Judging from Sargonid texts, trade may have been organized by persons from the receiving point. Thus, the trade between Umma in Mesopotamia and Susa in southwest Iran was carried out by people from Umma residing at Susa. Later, Lagash assumed Umma's position as Mesopotamia's entrepôt with southern Iran (Foster 1977:39).

Most of what is known about large-scale and long-distance commercial undertakings was learned from tablets that record the activities of the Old Assyrian merchant colonies in Anatolia (Garelli 1963, 1977; M. T. Larsen 1967, 1976, 1977; Orlin 1970; Veenhof 1972, 1977).

Although Sumerian, Babylonian, and Assyrian merchants nominally paid for goods in silver, Oppenheim pointed out that "silver as a means of exchange was hardly changing hands outside the context of the palace and the overland trade" (1970:21). But payments could be made with such commodities as dates, oil, and grain, or with textiles such as those produced by the flourishing wool industry of Sippar (Leemans 1950:3, 103) or Tell al-Rimah (Dalley 1977, 1984:51–54). Such cuneiform texts help to determine some of the commercial contacts and activities dimly perceived in the archaeological material.

The different environments of north and south in Mesopotamia did not prevent the two regions from being allied culturally, especially in historical times, and from showing greater similarity with each other than either had with any other land. "The central part of the country—notably the Diyala region—often showed a transitional character, although more closely tied to the south. In discussing the problems of relative chronology in Mesopotamia, therefore, there are always two aspects: the relation of the material from north and south and the relation of materials from either or both areas to those of other countries" (Perkins 1954:43).

Theory and Science

In the decades since the publication of *Chronologies* (Ehrich 1965), the results of excavation have been submitted more consistently than before to theoretical and scientific examination. An excellent summary of the state of the theory and method in the United States and Europe was given by J.-C. Gardin (1980).

Major contributions to the knowledge of the early periods of the Mesopotamian development resulted from international cooperation organized for the Himrin Salvage Project of which some of the reports have appeared (*Sumer* XXXV, 1979; XL, special issue, 1984; *Paléorient* 6, 1980, etc.) and are beginning to be integrated in the overall development of the ancient Near East. The Haditha Dam Salvage Project and the Eski Mosul, now called Saddam Dam Salvage Project, are also beginning to produce important results (Killick and Roaf 1983; Killick and Black 1985).

Problems of economy and population distribution were discussed in a review by H. Weiss (1985a) of the survey of the work from 1933 to 1982 of the British School of Archaeology in Iraq (Curtis 1982).

The Prehistoric Periods

The Early Prehistoric Periods in the North

The Pre-Pottery Neolithic Period

In recent years the image of the Late Neolithic phase of northern Iraq has changed dramatically. In 1965 the earliest known village was Jarmo in the hill country of northeastern Iraq, consisting of *tauf*-built houses (for an explanation of the term *tauf* see Braidwood and Howe 1960:40). The site mainly was distinguished by its numerous clay figurines of animals and humans. Now it is realized that there existed at the same time, and earlier than Jarmo, the impressive settlement of Maghzaliyah, excavated by Bader, Merpert, and Munchaev of the Soviet project, and located 7.5 km to the northwest of that project's excavation at Yarim Tepe.

Maghzaliyah lies on the southern slopes of the Sinjar hilly spurs on the west bank of the Wadi Ibra (Postgate and Watson 1979:152; Bader 179:131; Merpert, Munchaev, and Bader 1981:29). The settlement seems to have been built on the bank of the river in a north-south direction down the slope of a mound, referred to by the excavators as the northern mound. A southern mound emerged in the excavation of 1980. This preference of the first settlers for slight elevations seems to have been shared with the—probably somewhat later—settlers of 'Oueili in the south.

In the excavation of 1979–80 (Munchaev, Merpert, and Bader 1984:45–53), fifteen building levels were distinguished, which were divided into four major periods. On the northern mound lay levels 15 to 9. Above them a new settlement was built consisting of levels 8 to 5. In level 5 the buildings of the northern slope were enclosed by a massive defensive wall, which stood as high as 2 m in places and was traced for a length of over 60 m (Postgate and Roaf 1981:181). The wall was twice rebuilt in levels 4 and 3. In one place it describes a U-shaped curve which has been tentatively interpreted as the foundation of a tower. No defensive wall was found in levels 2 and 1 in which the settlement became smaller and may have ceased to exist at the end of level 1. During the entire period covered by the fifteen levels the material culture remained homogenous.

An example of one of the surprisingly large structures covering about 50 m² was excavated in level 2; it had been rebuilt twice. The structure was raised on a stone socle. The foundations of its walls, about 80 cm wide, were made of closely fitted blocks of limestone on the inner and outer face, whereas the inside was filled by small stones. These foundation walls were 40 to 50 cm high; above them *tauf* walls were raised. *Tauf* was a rather fluid mixture of mud containing straw or grass to prevent cracking, and was moulded with the builder's hands with a vertical face on either side to a height of about 7–10 cm, after which the section of the wall was left to dry completely for a day or so until the next layer was raised above the first (see Braidwood and Howe 1960:40). The walls at Maghzaliyah seem to have been related to those of Jarmo, where rough fieldstone foundations often preceded the building of the *tauf* walls. Photographs of the foundation walls of Maghzaliyah, however, show rather carefully selected stones creating in one case the impression of a regular wall face (Munchaev, Merpert, and Bader 1984:49, fig. 31, upper left).

The floors were made of a layer of small stones which was covered with a layer of packed clay and plastered with gypsum. Presumably, reed mats protected the white floors. The walls were also plastered with gypsum, which was often renewed, reaching a thickness of 2–3 cm in some places. Architectural modifications for the convenience of the inhabitants of these houses included hearths, benches, storage niches, and troughs.

The high quality of the artifacts of Maghzaliyah conforms to the elaborate architecture of the site. Relations with Jarmo are claimed for the figurine repertory of which human examples of clay and stone are mentioned (Merpert, Munchaev, and Bader 1981:54, fig. XXV/17 [here, fig. 2/1]). Some beautifully worked small conical objects (Bader 1979:126–27 in reference to fig. 7/8–12; Merpert, Munchaev, and Bader 1981: 54, fig. XXV/8 [here, fig. 2/2]) perhaps similar in shape to a group of twenty from Çayönü, referred to as pestles in the report (Çambel and Braidwood 1981:48, pl. 46/6 and 9), suggest a relation with the polished stonework of Umm Dabaghiyah and with the perhaps later polished stonework found at Tell es-Sawwan. Connections with bone carving of Bouqras, in the middle Euphrates valley, are suggested by the remarkable carved head of a gazelle (Merpert, Munchaev, and Bader 1981:62, and pl. XXXIII, second row, right side).

The lithic industries were rich with good blades, serrated sickle blades with sheen and tanged lanceolate arrowheads with retouch (here, fig. 2/3). In the upper layers, flint and obsidian occurred roughly in equal quantities, but lower down 80 percent of the tools were of obsidian. This suggests links in the obsidian trade with Anatolia and Iran. The site appears to have been an eastern exponent of the "Pre-Pottery Neolithic B–related" tradition which has been documented as extending from Beidha in Jordan to Çayönü near Diabekr in the north, with Gritille and Çafer Harabesi among the upper Euphrates area salvage excavations situated between them.

The absolute chronology of Maghzaliyah is still uncertain. Radiocarbon dates are published for Çayönü, Turkey (Çambel 1981), and for Bouqras, Syria (Akkermans, Fokkens, and Waterbolk 1981), which has clear affinities to "PPN-B final" complexes at such sites as Abu Hureyra, Syria (ibid.). Both sets of dates, Çayönü and Bouqras, are beyond the range of the most current calibration tables, so one must use the 5730 h.l. B.C., which seems to be usually about five hundred years later than the calibrated dates in instances where the two can be compared for the same determination. Tentatively, then, one might say that the Çayönü dates suggest an eighth to early seventh millennium range for "PPN-B related" sites and an early to mid-seventh millennium range for Bouqras.

Jarmo, which may in part be approximately contemporary with Bouqras, has been classed with the "Zagros Neolithic" sites on the basis of its chipped flint and the pottery of its upper levels (J. Oates 1973; Hole in Braidwood et al. 1983; Voigt and Dyson, this volume chap. 6). However, certain stone bowl shapes and obsidian tools, steeply retouched obsidian blades, suggest connections with western sites as well (Voigt, pers. comm., December 1985).

The Proto-Hassuna Phase

The new area of settlements, somewhat later than Maghzaliyah, was in the central northern plain of Mesopotamia, the north central Jezireh, where the site of Umm Dabaghiyah was discovered about 20 km west of Hatra (Kirkbride 1972, 1973a, 1973b, 1975), as well as farther north in the Sinjar Plain at Yarim Tepe I (level XII) and at tells explored in connection with it: Tell Sotto and Kül Tepe (Bader 1983; Merpert and Munchaev 1971a, 1971b; Merpert, Munchaev, and Bader 1981:27–29), and Telul eth-Thalathat (Fukai, Horiuchi, and Matsutani 1970; Fukai and Matsutani 1981). This phase of development can be correlated with the long-known so-called camp site of Hassuna (Lloyd and Safar 1945:271–72) on the basis of pottery similarities. The earlier levels of the developmental phase are called here Proto-Hassuna culture to distinguish them from the fully developed Hassuna period known in the literature as the earliest developed village of Mesopotamia and whose name was therefore retained.

The Proto-Hassuna pottery, some fine but mostly thick medium coarse, heavily straw- and chaff-tempered, has the distinguishing shape of the large vessels, a carination low on the body profile, with the outline of the lower part

of the body becoming a double curve or a concave curve, while the upper part of the body describes a convex curve (here, fig. 2/4). The most distinctive feature of the pottery is the applied clay decoration of small pellets and short rolls. In the early levels, these features often suggest breasts, horns, or eyes (Lloyd and Safar 1945: fig. 6/15–22 [here, fig. 2/5, 6]; Kirkbride 1972:pl. XI/1–17 [here, fig. 2/7]; Bashilov, Bolshakov, and Kouza 1980:60, fig. 9) and, in the later levels, full animal and even human forms appear to have developed (Kirkbride 1973a:pl. X/a, b [here, fig. 2/8] and pl. XI; Fukai and Matsutani 1981:pl. 14/1). However, this progression is not fully demonstrable stratigraphically.

In addition to the applied decoration there seem to have been experiments in painting in the earliest levels at Umm Dabaghiyah, which were freer in design than at a later stage (Kirkbride 1972:9). Dots, circles, and snakelike squiggles were tried out as well as a variety of linear effects with straight lines (here, fig. 2/9, 10).

Some sherds of another kind of pottery which appears to have been shared by several sites of this period were found in the lowest levels of Umm Dabaghiyah of "almost pure, pinkish-brown clay, with light grit temper in some cases, extremely well-fired, hard, thin and with good burnish" (Kirkbride 1972:9). Similar pottery was found at Tell Sotto (Postgate 1973:203 [red burnished]), in the earliest strata of Yarim Tepe I (Bashilov, Bolshakov, and Kouza 1980:50, Group 4 [dark gray and brightly burnished]), and at Telul eth-Thalathat (Fukai and Matsutani 1981:37 [red slipped and burnished]).

The earliest occupation at Umm Dabaghiyah is represented by some small irregularly curved bins or basins, with which as yet no buildings have been associated. To the same phase appears to belong a set of pits in stratum 1 at Yarim Tepe I (Bashilov, Bolshakov, and Kouza 1980:45), layer XVI of Telul eth-Thalathat with its "pit dwellings" (Hori, p. 22, and Furuyama, pp. 29–30, in Fukai and Matsutani 1981), as well as the Hassuna camp sites.

The later development of the Proto-Hassuna culture at Umm Dabaghiyah showed elaborate *tauf*—walled storage blocks (Kirkbride 1973b:206). The domestic buildings have surprisingly sophisticated features such as outside ovens and inside hearths and chimneys. Traces of mural paintings were found in levels IV and III (Kirkbride 1975:pls. VI–VIII). One house has an onager hunt, reflecting the purpose of what is taken to have been an industrial community founded to obtain various onager products, principally the hides (Kirkbride 1982:19–21). The most general color in the painting was red ocher, but both black and yellow were also used, although more sparingly (Kirkbride 1975:7).

The use of well-built rectangular storage blocks, like those of Umm Dabaghiyah, continued in the Hassuna-Samarra period as is shown by examples at Yarim Tepe I, levels XI–VII. Whether such buildings also existed at Telul eth-Thalathat in the contemporary level XV is not known because the architecture of the site is difficult to ascertain from the publication.

The easternmost site of this phase was Gird ali Agha, which lacked the substantial architecture of Umm Dabaghiyah (J. R. Caldwell 1983: 649).

The chronological precedence of the finds of Umm Dabaghiyah over those of Hassuna is indicated by the appearance of the "husking tray," a type of tray with corrugation inside the bottom, perhaps for baking (Voigt 1983:159). It has been a favored criterion for comparisons among early farming communities since its discovery in level II of Hassuna (Lloyd and Safar 1945:277 [here, fig. 2/11]). At Umm Dabaghiyah such a husking tray appears only in the "later levels" (Kirkbride 1972:9).

Of three female figurines found at Umm Dabaghiyah, one is "the most elegant yet recovered among the early cultures of Iraq" (Kirkbride 1972:8, pls. VII/1, VIII [here, fig. 2/12]).

At the sites of Tell Sotto (levels 3–4), Kül Tepe (level 1), Yarim Tepe I (levels XII–IX), and Tell Hassuna (level Ia), the Proto-Hassuna materials are succeeded by those of the Hassuna culture proper (Bader 1983). Thus, radiocarbon dates for Hassuna levels at Yarim Tepe I (LE 1086: 6275–5660; LE 1070: 6260–5665 B.C.) suggest ca. 6200–6000 B.C. for the end of Proto-Hassuna. Similarities between the fine stone bowls of the latest level of Umm Dabaghiyah and those of the earliest level at Tell es-Sawwan support this, since radiocarbon dates from Tell es-Sawwan level I are 5720 plus/minus 73 (P-855)* and 5860–5455 (P-857). Ceramic affinities suggest that the latest levels of Bouqras may slightly overlap with the earliest of Umm Dabaghiyah (Kirkbride 1972:14; Akkermans, Fokkens, and Waterbolk 1981; Akkermans, pers. comm., November 1983). Since the Bouqras dates allow an early to middle seventh millennium range, one can suggest the second half of the seventh millennium for Proto-Hassuna.

The Hassuna and the Samarra Periods

To this phase of early village culture belongs sites that range from the modest beginning with level Ib at Hassuna to the substantial houses with rectangular rooms grouped around a courtyard in which there were ovens, grain bins, and the like in Hassuna, level III.

The principal criterion of the Hassuna period is the Hassuna standard incised ware (here, fig. 2/13), which began at Hassuna in levels Ib–c and was widely distributed in northern Iraq (J. Oates 1973:163). There is a wide range of sizes, from storage jars nearly a meter high to tiny carinated bowls (for the pottery from Hassuna see

Lloyd and Safar 1945: 276ff.). The Hassuna standard vessels were covered with a thin cream slip, and while the slip was still wet the patterns were drawn with a pointed tool both in the incised and in the incised-and-painted standard wares. The earliest painted pottery, called "archaic painted ware," is characterized by the almost uniform red color of the paint and a glossy surface finish. Standard painted jars are squatter and have shorter necks than those of the archaic painted ware. Hassuna standard ware is most frequently decorated on the shoulder of the jar with crosshatched triangles or groups of opposed oblique lines painted in mat color on a mat background (here, fig. 2/14).

In addition to the local pottery at Hassuna, an imported one was in use. It was called Samarra after the central Mesopotamian site where it was discovered in graves (Herzfeld 1930). Samarra pottery manifests a distinct culture at the sites of Samarra, nearby Tell es-Sawwan, Choga Mami near Mandali, Mattarah, and Baghouz, where it is not accompanied by Hassuna ware.

Samarra pottery is exceptionally fine, mat painted, usually in strong black color, but sometimes in red. Distinctive ornaments are painted in narrow bands one above the other, each running in an opposite direction (here, fig. 2/15). Occasionally, figured designs are used. One vase from Hassuna, several fragmentary ones from Tell es-Sawwan, and two fragments from Choga Mami have the neck of a jar ornamented with painted and appliquéd female faces (here, fig. 2/16). Previous to producing elaborate pottery, the people of Tell es-Sawwan had manufactured hundreds of finely ground stone objects, in particular, female statuettes (here, fig. 2/7) and elegantly shaped bowls (here, fig. 2/18). These objects were also found in graves clearly associated with several unusually large buildings attributed to the earliest level (J. Oates 1973:170). This stonework of Tell es-Sawwan is reminiscent of the fine stonework of the aceramic levels of Maghzaliyah, Çayönü, and Bouqras, and of the beautiful stone bowls of Umm Dabaghiyah and Jarmo. Eva Strommenger noted this relationship of excellent craftmanship about 6000 B.C. at widely separated sites in south Anatolia, north Mesopotamia, and the areas on the middle courses of the Euphrates and Tigris (Kohlmeyer and Strommenger 1982:20).

The stately multiroom rectangular buildings of Tell es-Sawwan are constructed of very large mud-bricks with buttresses at wall junctions. There were five levels distinguished in all, of which T-shaped buildings could be recognized. In level III the settlement was surrounded on at least three sides by a defensive wall and a ditch 3 m wide. At Choga Mami, the structures were erected with long cigar-shaped mud-bricks, a rectangular plan was used, and buttresses were placed at the junctions of walls. Rooms were small, square, and frequently opened into each other along the long axis of the building. New houses were built on top of the older ones but within the walls of the earlier buildings, perhaps indicating property rights (J. Oates 1973:169). At Choga Mami there may have also been some evidence of walls surrounding a group of smaller buildings (ibid.). J. Oates associated the suggestion about property rights of house owners with the contemporary appearance of stamp seals as perhaps reflecting the recognition of private ownership.

The stone stamp seals so far published share a roughly rectangular sealing surface and a handle, which may be ridge-shaped or knob-shaped. Only the seal from Yarim Tepe I (Merpert, Munchaev, and Bader 1978:pl. VIII/5, lower right) is photographed with the handle, but not enough is shown to be certain of the shape. In all of the published seals the sealing surface is marked by rather crude, oblique crosshatching. In an example from Hassuna, level II (Lloyd and Safar 1945:pl. XI/2, top row, right end [here, fig. 6/1]), the handle had been broken and a suspension hole had been drilled through the middle of the sealing surface. The same can be observed in an almost identical example from Matarrah (Braidwood et al. 1952: fig. 20/10). In later seals a small cup-shaped hollow appears as part of the design.

It is curious that no seals have been published from several of the Samarra sites, for example, Tell es-Sawwan or Choga Mami. Most characteristic of Choga Mami are the elegant, painted figurines (here, fig. 2/19, 20), which prefigure in several features those from Ubaid, Ur, and ʿOueili of the Late Ubaid phase.

Further north, at Yarim Tepe I, the upper six levels also show rectangular multiroom houses, frequently with buttresses at wall junctions. The distinctive building material consists of compact blocks of clay, apparently of uniform size and often laid in regular patterns (Merpert and Munchaev 1973:101). As stated by Oates, Samarra sites occur "in a band across Mesopotamia north of Baghdad and south of the rainfed lands generally occupied by the 'Hassuna' peoples. Samarra penetrates also into the hills to the north-east; the bulk of the prehistoric pottery from Shemshara in the Rania plain would appear to be Samarran, and it has been noted that no ceramics earlier than Samarra have been found in this area" (J. Oates 1973:171).

Recently, Samarra occupation has been reported for the Himrin basin at mound A of Tell Songor (Fujii 1981:169–70, 173–75; Postgate and Watson 1979:179) and at Tell Rihan (Postgate and Roaf 1981:186; Gibson 1979). Both sites are said to have material similar to that of Choga Mami (Postgate and Watson 1979:178; Postgate and Roaf 1981:189; Fujii 1981:180). One building at Songor has two rows of square rooms with buttresses at wall junctions (Matsumoto 1979: fig. 2) and is similar to Samarra house plans published from Choga Mami (J.

Oates 1969:pl. XXIV). The figurines from this site are also somewhat related to those of Choga Mami (compare Matsumoto 1979, fig. 3, lower right, with J. Oates 1969:pls. XXVIII/c–d, XXIX/c–e).

From the available radiocarbon dates both the Hassuna and Samarra cultures would appear to have flourished in the first half of the sixth millennium, though perhaps beginning late in the seventh (see table 1). At Yarim Tepe II the earliest Halaf levels overlie an already abandoned Hassuna settlement (Munchaev and Merpert 1981:277). Since Early Halaf may have overlapped with Late Samarra (Hijara et al. 1980:151), the Hassuna culture may not have lasted as late as the Samarra.

At Choga Mami the levels with Samarran-type pottery were overlaid with one not known before, which has affinities with Early Ubaid materials of the south and with Iranian materials to the west (see Voigt and Dyson, this vol., chap. 6), but which developed at Choga Mami out of the Samarran levels without a break. Oates called this pottery "Transitional Ware" to emphasize its place between Samarra and the early southern material (here, fig. 2/21). While "Transitional Ware" is better fired and harder than Samarra pottery and there is much less tendency for the paint to flake off, many of the shapes and decorations are so close to the preceding Samarra pottery that out of context it would be indistinguishable. A radiocarbon determination for the site suggests the mid-sixth millennium as a reasonable date for Choga Mami Transitional (BM-483; 5965–5410 B.C.).

The Halaf Period

Following the Hassuna and Samarra periods the appearance of a new pottery initiated a new period in the Mosul and Sinjar regions of Iraq. The pottery was called Halaf after the site in the northern half of the Khabur headwaters region in north Syria, where it was first discovered.

Halaf pottery is a lustrous burnished pottery with static compositional schemes and, from about the middle of the period onward, with a measure of polychromy. The perfection in the technique of painting pottery in this phase consisted in the homogeneity, density, absence of bubbles, and consistency of the surface. Although there were great differences in quality, some Halaf vessels approached the technique of Attic vase painting.

Some of the finest Halaf pottery was discovered at Arpachiyah in the Mosul area. This site, which is the most extensively published Halaf site so far, was excavated by Mallowan in the 1930s (Mallowan and Rose 1935) and by Hijara in 1976 (Hijara et al. 1980). Hijara paid closer attention to the stratigraphic relations between the various parts of the mound than had Mallowan, hence he was better able to define the ceramic sequence (for a correlation of these reports see Dunham 1983:22, table I [here, fig. 9]).

There is obvious agreement between Hijara and Mallowan on the earliest Halaf pottery. Characteristic of this pottery is that the paint and slip easily separate. Mallowan's "Early Halaf Pottery" seems to correlate with Hijara's pottery Phases H1 and H2 (here, fig. 9/1, 4).

The Middle Halaf phase is difficult to determine from the published material. Mallowan's "Middle Halaf Pottery" may fit into Hijara's pottery Phases H3 and H4. Middle Halaf pottery can, however, be visualized from the finds from Tell Aqab in the Khabur headwaters region of north Syria by Davidson and Watkins (1981). These show a development from early pottery with simple forms of straight-sided bowls with limited geometric decoration in bands or alternating panels, which introduce the static Halaf-type composition, to more complicated forms in the middle period, in which also the earliest polychromy occurred. However, none of the animal forms of Mallowan's Early Halaf, or the bucrania, so common in the Middle and Late Halaf at Arpachiyah, occurs at Aqab. Arpachiyah cream bowls (here, fig. 9/1, 2) and squat jars with flaring necks (here, fig. 9/3–5) had occurred early at Aqab, but the cream bowl disappeared in the middle period at Aqab (ibid., p. 7).

The latest group of pottery from Arpachiyah with its magnificent polychrome plates (here, fig. 2/22), the aesthetic quality of which is due to the selectivity of pattern and spacing, is represented by only two examples from Aqab. Polychrome painting was also used on small shallow hemispherical bowls, which resemble what Mallowan called "saucers" at Arpachiyah. But the majority of the vessels at Aqab were painted in one color. Polychrome plates are also reported from Choga Mami, where they were locally made, and from the Himrin (Oates, pers. comm.).

The new excavations at Arpachiyah yielded two architectural phases which preceded those determined by Mallowan. The first, Hijara's Phase A1, his levels XI–IX, had village debris with rectangular rooms. However, the lack of round structures, the so-called "tholoi," in this phase could be due to chance, since Hijara's trenches were only 2–3 m wide. At Yarim Tepe II, round and rectangular buildings occurred from the earliest levels on (see below). In Hijara's Phase A2 (levels VIII–VI, layers 22–11), "tholoi" with walls 35–30 cm thick without stone foundations were found. A thick mass of *tauf* apparently originating late in level VII or level VI has been interpreted by Hijara as the remains of an enclosure wall surrounding the upper part of the mound (Hijara et al. 1980:132–34). Phases A3 and A4 were found only inside this enclosure wall. Phase A3a (levels V–IV, layers 10–8 = Mallowan's TT 10–9) had larger "tholoi" with thicker walls and stone foundations; while Phase A3b

(levels III–II = Mallowan's TT 8–7) had large "tholoi" with adjoining rectangular chambers. Indeed, the "tholoi" in these levels are some of the largest known anywhere, having diameters of 9–10 m, with attached rooms 7–9 m long. So far, the only other equally large "tholos" is one in the uppermost level at Tell es-Sawwan (ca. 12 m diameter; al-Soof 1971:4). Finally, in Hijara's Phase A4, equivalent to Mallowan's TT 6, these large "tholoi" are replaced by the rectangular building in which Mallowan found the large hoard of Late Halaf pottery.

Hijara suggested that in Phases A2 and A3 the tholos area was a ritual center, walled and having graves adjoining but not containing any settlement debris. In Phase A4 the artisan's rectangular house in which the contents had been preserved by a fire indicates the character of the village as producing pottery and other artifacts.

Another important site in the Mosul region is Tepe Gawra, the lowest levels of which contain Halaf pottery and round structures (Tobler 1950). Neutron activation analysis has demonstrated that some of this Halaf pottery was imported from Arpachiyah, a fact that bears out the pottery-producing function of Arpachiyah in this period (Davidson and McKerrell 1980). Watson reports that although Davidson thinks the Halaf pottery from Gawra belongs to his Late (comparable to Arpachiyah TT 6) and Transitional (to Ubaid) phases, "Hijara finds pottery at Gawra that fits his Phases One and Two (pre-TT 10)" (Watson 1983a:234).

At the small site of Banahilk near Rowanduz (Watson 1983b), the painted pottery from all levels appears to be "Late Halaf" (but cf. Hijara, in Watson 1983a: 233). The chipped stone industry comprises chert flakes and obsidian blades in similar proportions as at Girikihaciyan, Turkey. The chert industry continues earlier Hassunan traditions and is quite different from the contemporary chipped stone industries in the Amuq Plain in north Syria. Hence, the homogeneity demonstrated for the painted pottery across north Syria and north Mesopotamia may not extend to all aspects of technology (Watson 1983a:239–40; LeBlanc and Watson 1973).

West of the Halaf sites of the Mosul region lie those of the Sinjar region, Yarim Tepe II and III (Merpert and Munchaev 1973:108–13; Merpert and Munchaev 1984; Munchaev and Merpert 1981; Munchaev, Merpert, and Bader 1984). At Yarim Tepe II there were two uppermost levels greatly disturbed by grave pits of Hellenistic and Assyrian times; below these were seven levels of Halaf settlement. In the southeastern part of the mound were "remains of a destroyed stratum of a small Hassuna settlement which undoubtedly preceded the foundation of the Halaf settlement" (Munchaev and Merpert 1981:277).

The earliest excavated levels at the site contained narrow, rectangular structures interpreted as having been for domestic use "with many rooms and walls made of yellow-brownish loam slabs" (Munchaev and Merpert 1981:278). The slabs are probably the same "compact clay blocks" described in the buildings of the Hassuna period structures on Yarim Tepe I (Merpert and Munchaev 1973:101) of which it is said that they were approximately uniform in size and were laid in a regular pattern in some individual buildings (ibid.). Coating the walls with clay plaster was also continued from the earlier period. Adjoining the houses were hearths in pits and domed ovens. West of that functional sector were the main dwelling structures, the tholoi. Their shapes differed—one had vertical walls and a flat roof, another was domed, and inside the latter was a domed oven. The sizes were modest, with diameters ranging from 4.5 m to 3 m. A somewhat later tholos was bigger, having a diameter of 5.3 m. Its massive walls (up to 40 cm thick) rested on a special platform. With the foundation of the big structure are connected ritual pits with marks of fires and a number of finds that include painted vessels, microlithic tools, anthropomorphic figurines, and a unique copper seal, all of which were discovered under the floor of the tholos (Munchaev and Merpert 1981:278).

The largest tholos discovered by the Soviet expedition was excavated on Yarim Tepe III. It had a diameter of 5.85 m and the walls are 30 cm thick, standing to a height of 2 m. They were built of unbaked clay, with mud plaster on each face. Inside the tholos were four symmetrically placed corner-shaped buttresses to strengthen the walls (Munchaev, Merpert, and Bader 1984: 33–35). The bins created by the corner buttresses appear to have been used for objects that were meant to be kept together in one place, such as the seven hundred so-called clay sling-balls. Although the remains of broken pots were also thrown into the bins, there were obsidian plates (not defined as to their shape), pieces of flint, part of a broken rose-colored marble cup, beads, two of which were of white stone, and painted clay rings, about 3 cm in diameter. These rings are a distinctive object of the Halaf period at Yarim Tepe II and III. Neither Arpachiyah nor Tepe Gawra has yielded that type of artifact. There were also numerous anthropomorphic and animal figurines in the bins.

The most extraordinary figurine comes from Yarim Tepe II (here, fig. 2/24). It is hollow, forming a vessel in the shape of a headless female figurine, with the open neck serving as the spout, and represented with small breasts, a slender body in profile, and long strands of hair painted down its back (Munchaev and Merpert 1981:pl. opp. p. 137, and p. 252, fig. 98; Russian text pp. 251–52, and English, p. 281). Corresponding female torsos have been found at Arpachiyah (Mallowan and Rose

1935: fig. 45/10–12). The figurine-shaped vessel from Yarim Tepe II has halterlike bands which come together and run parallel between the breasts and then spread widely at the hips, prefiguring the painted bands known until now only from Ubaid figurines from Gawra (Tobler 1950, pl. LXXXI/c, d).

The more common Halaf period female figurine is heavy bodied and heavy breasted, and is seated supporting her breasts with her arms (Merpert and Munchaev 1973:pl. XLIII/12 [here, fig. 2/25]; Munchaev, Merpert, and Bader 1984:43, fig. 21). Another type from Yarim Tepe II (Munchaev and Merpert 1981:205, fig. 64/9), in which the upper part is reduced to a peg, has only the lower part of the body preserved like the almost identical figurine from Arpachiyah (Mallowan and Rose 1935: fig. 47/2, 3 [here, fig. 2/26]).

In the excavations at Yarim Tepe III even more abbreviated forms were found. They consist of triangular lumps of clay that have the female triangle incised above the bottom (Munchaev, Merpert, and Bader 1984:44, fig. 22). Others have the top pinched to suggest the presence of the head (ibid., fig. 23).

The excavators of Yarim Tepe III stressed the fact that the big tholos and the entire level belonged to the Late Halaf period. This is also confirmed by the pottery which has geometric and zoomorphic designs including snakes, leopards, birds, and fish (Postgate and Watson 1979:159). Sherds with long-legged birds from Yarim Tepe II, levels 4 and 3 (Merpert and Munchaev 1973:pl. XLVI/4, 5), can be compared to such Late Halaf pottery as sherds from Chagar Bazar in a "post level 12" context, which means Late Halaf (Mallowan 1936: fig. 27/8), as well as to examples from Gawra (Tobler 1950:pls. CXVI/59, CXVII/61, CXVIII/62) and from Choga Mami (J. Oates 1969:138 [from a well containing Late Halaf pottery]).

Somewhat earlier may be a sherd with horizontal grooves all over from level 4 of Yarim Tepe II (Merpert and Munchaev 1973:pl. XLVI/1), which may be of the same "painted and incised ware" that occurs at Arpachiyah TT 6 (Mallowan and Rose 1935:pl. XX/a).

Early Halaf pottery corresponding to Hijara's pottery phase H1 is represented at Yarim Tepe by the numerous sherds with the "huts and flowers" motif (here, fig. 2/23) from levels 9 and 8 of Yarim Tepe II (Munchaev and Merpert 1981:243, fig. 90; 247, fig. 93; Merpert, Munchaev, and Bader 1978:pl. XX/1–10).

In the Late Halaf level III at Yarim Tepe III was found a seal in the shape of a flattened drop, suggesting the haunches of a female and resembling the abbreviated anthropomorphic clay figurines from the same site. The design of two animals on the flat side of the pendant indicates its possible use as a seal. The seal form is well known from the Late Halaf level, Area A, at Tepe Gawra (Tobler 1950:pl. CLXXII/19 [here, fig. 6/22]). Three such seal pendants were reproduced from Yarim Tepe II (Munchaev and Merpert 1981:213, fig. 71/7, 8, 11).

Seals with geometric shapes, circular or rectangular, were engraved with the same delicate and distinctive pattern of squares with crossed diagonals, known from Halaf pottery designs. The impression of a pendant with such a pattern was found at Tepe Gawra in Area A, the Late Halaf level just mentioned (Tobler 1950:pl. CLVIII/11). The earliest occurrence of the pattern on seals is in Phase B of the Amuq (Braidwood and Braidwood 1960:95, fig. 68/2), where it is somewhat coarser and reminiscent of the crosshatching on seals of the Hassuna-Samarra period of Mesopotamia.

Area A of Tepe Gawra also yielded the impression of a small rectangular seal, engraved with an antelope in a natural pose with lowered head, which fits well into the available space (Tobler 1950:CLXVI/123 [here, fig. 6/3]). The refined style of this minute design and the excellent workmanship are characteristic of the Halaf period. The animal motif may be a Mesopotamian innovation, for animals are not represented on seals of the Amuq C and D phases, which are contemporary with the Halaf and earlier periods of Mesopotamia.

The fine workmanship in seal pendants, figurines, and pottery manifested at Yarim Tepe II and III, comparable to the workmanship at Arpachiyah and, to a lesser degree, at Tepe Gawra, may be considered a criterion of the period.

One of the several sites in the Himrin basin with Halaf materials, Tell Hasan (Watson 1983a:237; Jasim 1985: 164–65), shows the combination of round and rectangular buildings observed at Yarim Tepe II and III. At Tell Hasan the Halaf occupation was situated on the western part of the tell, while on the eastern part was a small settlement of the Ubaid 4 phase. Nowhere on the site did Halaf and Ubaid sherds occur together in a stratified context (Jasim 1985:165).

However, at another Himrin site, Tell Songor B (level II), Late Halaf pottery appears to have been in some contact with Early Ubaid pottery (Fujii 1981:185–86, 193). Watson reports that Hijara noted several other Halafian sites in the region between the Jebel Himrin and the Iranian border, most of which are known only from surface collections. The most important of these may be the partially excavated site of Bagum near the Darbendi Khan reservoir (Watson 1983a:237), which is said to have yielded some red-burnished pottery, perhaps comparable to that at Choga Mami (J. Oates 1969:122, 138–39). All these Late Halaf occurrences are classed by Watson in her "Halafian Periphery: East," along with Halaf-influenced pottery found in Iran (Watson 1983a:237–38), and must

represent an expansion of Halafian influences outside the "heartland" of the culture in north Syria and north Mesopotamia.

Available radiocarbon dates suggest that the Halaf culture should be dated to the second half of the sixth millennium (see table 1). The one date from Hijara's excavations at Arpachiyah, BM-1531 from Phase H2, 5985–5495 B.C. (for details see table 1), suggests some contemporaneity with Choga Mami Transitional. This date does not represent the earliest Halaf material since that material had overlapped a little with Samarra. Given the Samarra radiocarbon dates, the Halaf period of Mesopotamia may have begun about the middle of the sixth millennium. If one accepts Hijara's judgment that the lowest Halaf levels at Yarim Tepe II and at Arpachiyah were roughly contemporary, then the radiocarbon dates of levels 7 and 6 of Yarim Tepe II (LE 1212, LE 1211: 5455–5210 B.C. and 5555–5257 B.C. [for details see table 1]) may suggest that these belonged to Middle Halaf, Hijara's pottery Phases H3 to early H4.

The integration of these finds with those of recent excavations of Halaf sites in the west, like Shams ed-Din Tannira, the Euphrates Dam project of the American University of Beirut (al-Radi and Seeden 1980; Azoury and Bergman 1980), and the most promising site in Turkey, Çavi Tarlasi (see Mellink, this vol., chap. 9), remains a task for the future.

The Ubaid Period

For most of the time during which the present version of *Chronologies* was assembled, the period called Ubaid, after a site near Ur in southern Mesopotamia, was considered to have begun somewhat later than the end of the Samarra period in central Mesopotamia and also after the end of the Halaf period in the north. This chronological assumption was reinforced by the fact that Ubaid pottery, made of hard-fired buff or red paste with small geometric designs in black paint, was found at northern sites like Arpachiyah as the last period of occupation, following the Halaf period (Mallowan and Rose 1935:20, and passim). The structure of the present section of this book was planned accordingly.

In 1985, results of a deep sounding at Tell el-ʿOueili near Larsa have yielded information concerning periods preceding the earliest Ubaid phase from Eridu. Twenty levels were distinguished in the sounding; however, the groundwater level prevented full exploration to virgin soil. The term *Ubaid 0* was used for levels thirteen to twenty which show relations with Samarra pottery designs and, in at least one case, a resemblance to an early Hassuna coarse-ware shape. At this writing no radiocarbon date is available; however, the pottery and brick types (see below) are related to those at Choga Mami Transitional sites and suggest a likely contemporaneity. Now, it is not surprising that the chemical composition of the Ubaid pottery was closely related to that of Samarra pottery, but different from Halaf pottery (Noll 1976–77: 32, 34).

The Ubaid Period in Southern Mesopotamia

The excavations of the deep levels at ʿOueili have shown that the first settlers built on an elevation, probably to protect themselves against yearly flooding (Calvet 1985:257). Calvet pointed out that the great alluvial deposits of several meters depth, which can be observed at the site, would prevent the discovery of any but the largest of the Early Ubaid settlements (Calvet 1985:255). These observations were made tentatively in amplification of the work of Adams, Nissen, and Wright, who suggested that the earliest phases of the Ubaid period were characterized by small sedentary communities, fairly widely and evenly dispersed in the Eridu region (Adams 1981:59). They thought that they could discern some suggestion of a two-level settlement hierarchy, especially in the Ur-Eridu region, toward the end of the Ubaid period. Here, a variety of smaller settlements of ca. 2–5 ha extension can be seen as subsidiary to a few larger sites covering about 10 or more ha each, for example, Ur and Eridu (Wright in Adams 1981:325).

The Ubaid 0 Phase (The ʿOueili Phase)

The deep levels of ʿOueili have architectural remains showing building techniques for permanent structures (Calvet 1985:259). Huot (1985a:122) describes the material as "loaves" of clay up to 60 cm long, flattened on both sides by boards between which they must have been formed. The upper surface has two long parallel furrows. In their flatness, these large loaves or bricks differ from the otherwise related "cigar-shaped" bricks described by Joan Oates in the buildings of the Samarra houses at Choga Mami (J. Oates 1969:117–21).

The pottery of Ubaid 0 is often painted, except for the earliest levels in which the number of potsherds collected is also very limited. One finds bowls the sides of which are more or less widened toward the top. There were large bowls, footed bowls, closed jars, and jars with convex-concave profiles. Decoration is often produced by parallel lines forming zigzags, large cross-shaped forms, parallel vertical lines, parallel festoons, and superimposed chevrons. On the basis of several items one can suggest a continuity between Ubaid 0 and Ubaid 1, and the overall phase can be considered a direct predecessor of Ubaid 1; however, the repertory of Ubaid 1 is far more sophisticated and the execution closer and tighter. Several morphological and decorative parallels exist with the repertory of the so-called Choga Mami Transitional as it is

known from Choga Mami and from Choga Sefid in Iran; moreover, there are relations with the material of Baghouz and Songor A. However, the culture of the ʿOueili phase is not a simple local variant of Choga Mami Transitional but shares with it the horizon of the Samarra period which needs to be further elucidated (Huot 1985a:122–23).

One of the two jars reproduced by Huot (1985b:305, fig. 3) resembles in its lower part a large flat "bowl, upon whose rim was built an upper structure, which . . . curves sharply inward [then rises in the neck] to make a squat . . . vessel." This description was given by Lloyd (Lloyd and Safar 1945:277) for coarse-ware jars of the coarse, straw-tempered vessels of the first, second, and third camp sites in level Ia at Hassuna (for the type, see here, fig. 2/4). Aside from the neck, the description also applies to the shape of the jar from ʿOueili. The painted decoration of the jar from ʿOueili indicates, of course, a somewhat later stage of development. In the second vessel reproduced by Huot (1985b:306, fig. 4), the regular parallel lines suggest the use of a multiple brush, a rather sophisticated technical device that appears to have been used in the subsequent Eridu phase.

The Ubaid 1 Phase (The Eridu Phase)

This phase is named after the ware found in levels XIX–XIV at Eridu in a sounding made near the south corner of the ziggurat. The pottery is fine to extremely fine and covered inside and out with a slip of the same clay. The paint varies from black to red and was normally laid on thickly. One of the most common forms is a broad, either flat or shallow, dish or plate (here, fig. 2/27), occasionally provided with a ring base. Also common are jars with short or long vertical necks, or with flared necks rising from a curve (here, fig. 2/28). A distinctive type is a tall goblet with ogee-shaped sides, occasionally with a carination near a flat bottom (Safar, Mustafa, and Lloyd 1981:174–75, and fig. 96/20 [here, fig. 2/29]).

The painted designs are elaborate, delicately applied, small, and varied. Each type of vessel has its own characteristic repertory of designs. Thus, the shallow dishes have the maximum decoration on the central ground and border of the inner face. The usual type of border pattern is a wide band filled with double crosshatching or diaper pattern, sometimes elaborated by the intermittent solid filling of the checks, giving an extremely rich effect. The central ground is decorated with an allover pattern (checks, opposed triangles, etc.), or with a centrifugal design reminiscent of Samarra wares. From a mere medallion in levels XVIII and XVII the decoration develops into an elaborate design covering the whole ground, usually with some sort of cross as a basis (Safar, Mustafa, and Lloyd 1981:174, and fig. 99/5, 8; J. Oates 1960:35, and pl. V/24). Another distinctive motif on the inside of shallow bowls is a small tassel of varying form pendent from a sweeping triangle (here, fig. 2/30). Various forms of running ornament between horizontal bands are preferred for jars and are usually limited to the rim and shoulder of the pot (Safar, Mustafa, and Lloyd 1981:175; fig. 98/29–32). Tall goblets are decorated on the outside only, often with bands of solid color beneath the rim, alternating with running patterns. Usually these are balanced by a single heavy band near the bottom (ibid., p. 175; fig. 96/20 [here, fig. 2/29]).

The earliest architecture found at Eridu, levels XVIII–XVI, is characterized by large flat bricks, ca. 50–54 cm × 20–26 cm × 6–7 cm, laid as stretchers in thin walls only one brick thick. In level XVI there was a small building, 2.10 × 3.10 m, with a deep niche containing a small mud-brick pedestal on one side. Opposite the pedestal in the middle of the room was another pedestal which bore clear traces of burning. The doorway was slightly off center with another small mud-brick pedestal outside it. These elements, essential to later Sumerian temples, plus the placement of the building underneath of what was later clearly a sacred area, form the basis for the convincing interpretation of this building as a temple (Safar, Mustafa, and Lloyd 1981:111). Level XV contained a larger rectangular building of less distinct character and built of a clearly different kind of brick: handmade, without any kind of mould, 40 × 14 × 8 cm, and having deep finger grooves on one side. This type of brick was also used "to pack out" the ruins of Temple XV in order to provide an emplacement for a new building, of which no traces remain. The filling was designated as Temple XIV (Safar, Mustafa, and Lloyd 1981:90).

The remains of level 10 at ʿOueili, which was contemporary with Ubaid 1, as shown by relations in the potteries of the two sites (compare Calvet 1983a:*passim*, with Safar, Mustafa, and Lloyd 1981:*passim*), are not yet fully published. They contained several floors, although no walls were found. Level 9 lacked all architecture as such; however, there was some modification of the ground descending toward the south. Part of the pottery of this level was of Ubaid 3 type.

In level 9 was found a pendant of clay (Huot 1985b:309, fig. 6) resembling the shape of the Halaf pendants in the form of an abbreviated female body (here, fig. 6/2). The fact that the ʿOueili pendant is made of clay is unparalleled among the pendants of the Late Halaf and Ubaid periods of Tepe Gawra and Yarim Tepe II and III. Moreover, the motif engraved on the pendant, which the excavators compared to the Late Ubaid subject of an animal-headed demon between two animals or humans, is equally unique on this type of pendant and shows the earliest local glyptic endeavor so far known from the south.

The site of ʿOueili was abandoned after this level and covered by sand until it was reoccupied in Ubaid 4 (Calvet 1985:258).

In the Himrin basin, at Tell Abada, Ubaid 1 material was found in the lowest level, level III, together with "a few apparently genuine Samarra sherds," and associated with "a type closely related to both and reminiscent of Choga Mami 'Transitional'" (Jasim 1983a:184, 1985:90–96). The association of these potteries indicates that they are probably also to be considered chronologically close. Relations of decorative patterns on Eridu phase pots, especially of groups of juxtaposed parallel lines, often with a solid or reserved triangle between them (e.g., Safar, Mustafa, and Lloyd 1981:figs. 94, 97–100, levels XIX–XVI), can be compared to a characteristic external motif of "Transitional Ware" bowls at Choga Mami (J. Oates 1969:pl. XXXII/2–8, 10–12 [here, fig. 2/31]). The radiocarbon date for the Choga Mami Transitional (BM-483) may indicate about 5500 B.C. for the beginning of Ubaid 1. How long it lasted is uncertain, as is the duration of the rest of the Ubaid period. Thus, discussion of absolute chronology will be deferred until the end of the section on northern Ubaid.

The Ubaid 2 Phase (The Hajji Muhammed Phase)

Hajji Muhammed ware, first recognized in the excavations at the Qalʿat Hajji Muhammed (Ziegler 1953), is characteristic of levels XIV–XII at Eridu and continues as well into some later levels. The ware usually has dark purplish black paint, often thickly applied, resulting in a metallic luster. Patterns are often close and create dark zones on the light buff pottery. Wide bowls are usually painted on the interior wall with an oblique grid pattern, leaving a regular scatter of tiny squares in reserve (here, fig. 2/32); the center of the bowls frequently has a radial pattern. Three sherds of Hajji Muhammed pottery examined by Noll showed relations with the painting techniques of Halaf ware (Noll 1976–77:40).

Hajji Muhammed pottery had as wide a distribution as that of Ubaid 1. While it appears to have been most concentrated in the area of Uruk and Ur, it was also found in the excavations at Ras al-ʿAmiya, near Kish, although most of the pottery there belonged to Ubaid 3 (Stronach 1961; Adams 1981). Farther north in the Himrin, Late Ubaid 2 materials, mixed with Ubaid 3, have been found at Tell Abada in levels II–I, Tell Songor B and C, Tell ʿAyash, and Tell Rashid. At Tell Abada above level III was 50–70 cm of fill in which no buildings were found. Level II above this contained Late Ubaid 2 and Ubaid 3 pottery, but Ubaid 2 types predominated (Jasim 1985:98). This level also contained an extensive settlement of well-built mud-brick buildings having a T-shaped central hall, or court, flanked to either side by smaller rooms or more T-shaped rooms. This is the earliest occurrence of a type of plan that will continue in both north and south in the later Ubaid and Uruk periods. At Choga Mami the Ubaid levels had been heavily eroded, but the sherds collected on the surface of the mound included a number in the Ubaid 1 and 2 styles which predated the Late Halaf material in the vicinity (J. Oates 1983:256).

In this phase Ubaid pottery begins at sites along and behind the Saudi Arabian shoreline of the Persian-Arabian Gulf, more than 600 km south of Eridu, although most of the Ubaid pottery is Ubaid 3 or 4 (J. Oates 1978:1983). Neutron activation analysis has shown this pottery to be of Mesopotamian manufacture (Oates et al. 1977). Potts stresses the likelihood of Mesopotamian fishermen exploiting not only the rich fishing banks off the Arabian coast, but also those of the coast on the opposite side at Bender Boucher (Potts 1978), whereas J. Oates also considered that trading ventures might have played a role (J. Oates 1978; Adams 1981).

The Ubaid 3 and 4 Phases (Former Ubaid I–II Periods)

In levels XI–VI at Eridu (corresponding to the architectural phases of the temple) occur the typical features of the Late Ubaid period, known from several sites: bent clay nails or mullers, clay sickles (here, fig. 3/1,2), and, in pottery painting, simple, often bold curvilinear designs with frequent use of negative space (here, fig. 3/5–6). A clear division between Ubaid 3 and 4 is not possible, therefore the phases are treated together.

One of the links between Ubaid 3 and the foregoing phase 2 is formed by "tortoise jars" (here, fig. 3/4), first found at Eridu in level XIII, but lasting until level VIII. At Gawra the type was found in the Early Ubaid strata XIX–XVII (Tobler 1950:136), and a better, more regularly painted example of similar type was found at Songor B in a grave; it "rested against the grave hole with its spout upside down" (Fujii 1981:171; fig. 36/1; pl. 19/4). A fine example was also found at Tell Abada in level I (Jasim 1985:119; fig. 192). Transitional types were found at the Ubaid 2–3 site of Ras al-ʿAmiya, north of Kish (Stronach 1961:116).

Connections with areas outside southern Mesopotamia appear to have been extensive in Ubaid 3. They are chiefly demonstrated by pottery from Mehmeh in the Deh Luran Plain in Khuzestan, Iran (Hole, Flannery, and Neely 1969:361), namely, Mehmeh red-on-red ware with geometrical designs in a red paint that is darker than the reddish color of the vessel. It was found at Ras al-ʿAmiya (Stronach 1961:121–22) and also occurred at Choga Mami and in the Himrin at Songor C, level 1, Songor B,

level 2 and Tell Abada, levels II–I (J. Oates 1983:258–59, and fig. 6/2–4; Jasim 1985:168, and fig. 159).

Toward the end of the Ubaid period in the south, pottery painting became careless and uninspired, and even at Eridu the later wares are "less skillfully painted" (J. Oates 1960:39; also Safar, Mustafa, and Lloyd 1981:160). In Temple VI only 76 painted sherds were found in contrast to 579 unpainted ones (Safar, Mustafa, and Lloyd 1981:160). Some of the grave pottery (here, fig. 3/5, 6), however, has simple bold designs as pleasing as those of Gawra XIII, which are probably contemporary.

Criteria of the Ubaid 4 phase are (1) bowls with flattened inverted rims, occasionally with a ring base, mostly in greenish ware and scratched inside with a blunt, comblike instrument, and (2) bowls with the same kind of rim and painted black inside (Safar, Mustafa, and Lloyd 1981:262, and fig. 127/types 6–8 [here, fig. 3/7, 8]; cf. J. Oates 1983:260). The types were found in the Hut Sounding, but not in the temple or the cemetery. They are found at Warka in both the Eanna and Anu soundings, at Ur, and at ʿOueili, but have not been found so far in the Himrin (J. Oates 1983:260; Adams and Nissen 1972:99).

The architecture of the Ubaid 3 phase is only known from the temple sequence at Eridu. The thin-walled Temples XI–IX have mud-bricks of new proportions, clearly defined regular buttresses, a platform on which the temples are raised, and a plan in which the principal unit is a cella with an altar at one end behind which is a passage. Annexed to the sanctuary chamber on the side were two smaller rooms, one of which contained an offering table.

Temple VIII contained Ubaid 3 pottery but the plan is closely related to that of Temples VII and VI. The walls have greater thickness than before, and the buttresses seem to have become decorative pilasters as in the later temples. The impressive plans of Temples VIII–VI at Eridu agree with the general character of the Ubaid 4 phase. They have often been compared to the public buildings of Gawra XIII. More specifically, comparison has centered on the so-called Northern Temple, built in the middle of the period covered by stratum XIII at Gawra (Tobler 1950:35), which was compared to Temple VII at Eridu (Lloyd and Safar 1947:93). Both structures are identically oriented and seem to be based on a plan that had a cella flanked by four corner rooms. There is a major recess in the facade, decorated like most other outer walls by stepped buttresses. Despite these similarities, which suggest that the buildings were contemporary, there are important differences between them, especially in the position of the entrances, probably owing to different ritual requirements.

The chronological division between Ubaid 4 and the following Uruk period is difficult to discern because of the gradual pace of the transition which can be observed in recent excavations at Warka. These have revealed an Ubaid 4 to Early Uruk settlement in the area of the northwest side of the later Anu ziggurat. Levels 5–6 of *Schnitt* I and 6–7 of *Schnitt* II, the lowest Ubaid levels reached, appear to be approximately contemporary with levels XVII–XVI of the Eanna sounding and seem to be the only Ubaid levels not disturbed by later building activity, that is, the digging of the foundation trench of the *Steingebäude* (for the pottery see Boehmer, in *UVB* 26–27:31–42). In these Ubaid levels of Uruk, two temples prefigure architectural characteristics of the Uruk period as noted by J. Oates (1983:251). Both temples are raised on a mud-brick platform, have a tripartite plan and facades elaborately recessed and plastered. Moreover, one temple was carefully whitewashed like the White Temple on the Anu ziggurat.

Further evidence for the continuity from the Ubaid to the Uruk period may be indicated by the evidence from the small site of Tell Mismar (Schmidt 1978), where numerous clay cones were found in a building with some cone ornament in situ. If this site can be considered terminal Ubaid, the cone mosaic as well as the large size of the rooms precede similar features in the architecture of the Uruk period.

To about the same period belong the Ubaid 4 levels of ʿOueili in which Lebeau has pointed out close relations of the pottery with that of the Late Ubaid-Uruk settlement at Uruk-Warka in K XVII (Lebeau 1983a, 1983c). In these late levels of ʿOueili, three architectural phases can be accommodated within Ubaid 4 (Forest 1983a, 1983c). In the earliest of these phases, the third, was found a well-built, large construction, in which the differences of the terrain had been evened out by a substructure of small boxlike chambers on which a floor had been laid. Opposite the construction were "annexes" in which similar boxlike chambers seem to have been built as support for storage above. Such relatively large storage installations herald the transition to an urban economy as does the mass production of pottery.

In this last phase of the Ubaid development were also found clay figurines of animals, mostly bovine, and of humans, mostly female. Dales distinguished an Ur-Eridu naturalistic style with reptilian heads and natural legs (here, fig. 3/9) and at Warka a pillar style that is paralleled by figurines from Gawra XVI–XV (Dales 1960:182). The Warka examples have the typical "coffee bean" eyes, while the Gawra ones do not (Tobler 1950:pl. LXXXIV/b; Heinrich, in *UVB* 8:pl. 47/h). Figurines from Tell es-Sawwan and Choga Mami with a tall headgear, or hairstyle, covered with bitumen, and slender, small-breasted female figurines with coffee-bean eyes furnish prototypes for the Ubaid figures of the south. This can be assumed

despite the gap in time which seems to separate the earlier figures from the later ones. Examples of these later ones found in the surface layer of Tell el-ʿOueili (Lebeau 1983b:133) indicate a date at the end of Ubaid 4. They show that influences not only went from south to north in the middle of the Ubaid period, as suggested by the pottery, but that important cultural traits at an earlier period had traveled south from northern sites.

The first period in which stamp seals were found in the south is Ubaid 3–4, but the number was small. The most characteristic type is exemplified by one seal from Uqair (here, fig. 6/4, drawing after Buchanan), which has a raised back and slightly raised, oval base. The base is engraved with a symmetrical pattern of parallel lines in different directions, interspersed with small, shallow drillings. The seal was found in a level preceding the end of the Ubaid period (Lloyd and Safar 1943:149), presumably Ubaid 3 to 4. To the same type belongs a stamp from Tello (Buchanan 1967:528, pl. I/13).

A symmetrical pattern created by groups of parallel lines in different directions was a device favored by Ubaid-period seal carvers. Several seals with such patterns and the shape of the seal from Uqair were found at Uruk (Jakob-Rost 1975:pl. 1/5–7) and can be ascribed to the Ubaid period on the basis of their type, although they were not so recorded stratigraphically. The same applies to a pink stamp seal from Ur (Woolley 1955:pl. 28/ U.17923).

Characteristic of Ubaid 4 are several types of small engraved terra-cotta and stone beads, examples of which were found well stratified at ʿOueili (Lebeau 1983b:pl. B/2, 3, and pl. D/5, 6; text, p. 134). The same types have been found at Ur (here, fig. 6/5, 6) and doubtless at other sites from which they were not published. The same type of object, though with a rhomboid shape and made of terra-cotta, was found in Gawra XIII, supporting the contemporaneity of Gawra XIII and Ubaid 4.

No seal impressions or figured designs have so far been discovered in the south in Ubaid levels.

The Ubaid Period in Northern Mesopotamia

The Early Northern Ubaid Phase (Ubaid 3)

The transition from Halaf to Ubaid culture as reflected in the pottery of the northern sites of Tepe Gawra, levels XX–XVI, Telul eth-Thalathat XIV and XIII, and Qalinj Agha, located within the city limits of Erbil, was gradual (Dunham 1983). To these northern sites should also be added Tell Aqab in Syria, which shows in its latest levels a very close relation to the pattern of Halaf and Early Ubaid elements seen in the pottery of Gawra XX–XVI (Davidson and Watkins 1981:9). The transition from Halaf to Ubaid has also been found at Yarim Tepe III, where a small Early Ubaid settlement overlay a more extensive Halaf occupation. In the Himrin basin, early northern materials appear at nine sites, the most important of which are Tell Abada (II–I), Kheit Qasim III, Tell Rashid, and Tell ʿAyash.

Certain types are characteristic of this Early Ubaid phase. Small bell-shaped bowls with hatching between solid lines near the rim, hemispherical bowls with scalloped lines or hatched triangles near the rim, and globular-bodied jars with constricted neck and hatched decoration on the shoulder (here, fig. 10/4, 6, 8). The patterns are continuous and rapidly executed. A type of vessel often found in Thalathat XIV, less frequently in XIII and XII, is a large globular-bodied jar with a very short neck and a ledge inside the rim (here, fig. 3/10). The ledge is often perforated in four places. This is a very rare type at Gawra, but a rim sherd of this vessel type occurred at Qalinj Agha in level X of sounding I (al-Soof and es-Siwwani 1967:70) and at other sites of the north as well as south (Dunham 1983). The occurrence of the ledge-rim jars in north and south parallels the long-known situation concerning the so-called tortoise or trumpet jars in level XI of Eridu and XIX–XVII at Tepe Gawra (Porada 1965:142). No tortoise jars are reported from Thalathat but a trumpet-shaped spout was found at Qalinj Agha, in sounding I, level X. Moreover, examples were found at Tell Abada in the Himrin and at Tell Brak far to the northwest (Jasim 1983a:179, fig. 12/1; Jasim 1985:fig. 192; D. Oates 1982b:64).

At Tell Abada in levels II–I a large amount of incised pottery was found (Jasim 1985:130–38; pl. 9/a, b). Similar pottery is reported from Kheit Qasim III (Forest-Foucault 1980:224) and Tell Rashid (Jasim 1985:150). Some of this is similar to incised ware excavated long ago at Kudish Saghir and Nuzi (Starr 1937:pls. 44–46; J. Oates 1983:254). This type of pottery appears to continue into the Late Northern Ubaid period in the Himrin, at Tell Madhhur and Abu Husaini, and at Tepe Gawra, level XIII (J. Oates. 1983:254; Tusa 1980:227; Tobler 1950:141; Jasim 1985:159–61). At Abada and Kheit Qasim III some of the incised ware is said to be Dalma impressed ware, such as was found at Dalma Tepe in western Azerbaijan (Hamlin 1975). One Dalma-like painted bowl occurs in Abada level II (Jasim 1985:167; fig. 125/d). Also to be noted is a large bowl with flaring sides found at Dalma Tepe and said to be an import (Hamlin 1975: fig. 10/i). This is decorated in a bold sweeping design of a type found in Abada level I and in the Ubaid levels at Arpachiyah (Jasim 1985:35, and fig. 164; Mallowan and Rose 1935:fig. 32). At both sites such bowls were associated only with burial urns (Mallowan and Rose 1935:46; Jasim 1985:114–15).

Links between north and south in the Ubaid period are also obvious in the so-called mullers or bent clay nails. Examples come from all the Ubaid levels (except level

XV) of Tepe Gawra after level XX (Tobler 1950:169), from Telul eth-Thalathat levels XIV and XIII, from Tell Aqab, where it first appeared in the uppermost level of trench 1 (Davidson and Watkins 1981:10), and from southern sites like Tell Uqair (Lloyd and Safar 1943:pl. XVI, "a group of objects from houses in the Ubaid settlement") and ʿOueili (Lebeau 1983c:135). At Tell Abada II–I, some were decorated with paint or attached pellets of clay at the curved end and one was shaped into a simplified human torso (Jasim 1985:63; fig. 57).

The glyptic development of the Early Ubaid period, however, seems to have been limited to the north. A lentoid seal shape engraved with a delicate, single antelope, like the earliest imprint (Tobler 1950:pl. CLXVI/123 [here, fig. 6/3]), was found in Gawra XVIII and again in XV (ibid., pls. CLXIV/103, CLXV/104). In the latter level an imprint was also found that shows human figures and animals in a coherent composition (Tobler 1950:pl. CLXIV/98 [here, fig. 6/7]). The thin, linear figures seem to float in the space which they fill with their dovetailing forms. Legs of both the humans and animals are bent. Seal impressions found in the well of Gawra XIII of the Late Northern Ubaid period (Tobler 1950:pls. CLXIV/100–102, CLXIX/162) as well as a seal from Tell Gomel in northern Iraq (Frankfort 1935:29, fig. 31) also belong to this style. Often the figures stand on the circumference of the seal, causing something of a rotational movement in the design.

Female figurines of the Early Ubaid period are simplified in comparison with Halaf figurines. Especially characteristic are stumps for arms (Tobler 1950:pls. LXXXI/c, CLIII/4 [here, fig. 3/11]) and painted bands on the body crossed or converging at the breast and forming a girdle below (ibid., pl. LXXXI/c, d). The ornamentation of the crossed bands survived in later periods from the Mediterranean to India.

In the architecture of this period at Tepe Gawra the survival of Halaf round structures can be observed in levels XX and XVII. Round buildings like those at Gawra with interior wall projections were also found at Thalathat in level XIII (Egami 1959:3; figs. 9, 10). However, these are single structures of which at most two occurred in one level, while rectangular buildings predominated.

The important new type of the period is a tripartite house, "consisting of a roofed central room, either rectangular or cruciform, running the length of the house and two rows of smaller rooms on each side" (Roaf 1984b:88).

The interpretation as temples of the buildings of Gawra XIX and XVIII, with a plain rectangular central room in which there was a rectangular podium slightly to the rear of the room, was rejected by Roaf (1984b:82), who considered only the extraordinary buildings of the Late Ubaid period, Gawra XIII, to have been temples. Their plans resemble those of the temples of Eridu and make southern influence seem very likely (Roaf 1984b:83).

The characteristic Ubaid-period house with cruciform or plain rectangular room has a stepped facade "where an internal wall meets the outside wall, and the staircase unit consists of two narrow, parallel rooms" (Roaf 1984b:88). Examples of this occurred in Gawra and later, at Thalathat (Egami 1959:fig. 47), and in the Himrin—at Tell Songor B (Matsumoto 1979:524; fig. 4), at Abada, level II (Jasim 1983a:figs. 7–9), and an almost identical plan at Kheit Qasim III (Forest-Foucault 1980:222) and Madhhur II (Roaf 1984b:82–88; figs. 7, 12, 14, 17–19, 21, and 23).

The Late Northern Ubaid Phase (Ubaid 4)

In levels XVI–XIII of Tepe Gawra, the acropolis of XIII, crowned by three elaborate temples, built of excellent, well-bonded mud-brick with complex stepped piers and niches, probably indicates that Gawra was the most important place of the entire region. The pottery of other sites more recently excavated can therefore be keyed into the Gawra sequence. Bold designs on pottery with much use of negative space are found on beakers with gently curved sides and slightly flaring rims, characteristic of level XIII (here, fig. 3/12). Pottery comparisons between Thalathat IX and VIIb cluster around Gawra XIII. The most striking comparisons are with the corrugated jar with flat base, round body, and high cylindrical neck, a distinctive type at Gawra XIII that can be compared to fragments of level IX from Thalathat. The distribution of the type into the Sinjar region is documented by the excavations of S. Lloyd at Grai Resh (Lloyd 1940:pl. II, fig. 5/29). Another widely distributed type is the plain globular jar with incised herringbone pattern on the body, with a usually short out-turned rim. The rim is either plain or has the incised herringbone pattern on only the inside or the outside, and, in an example from Gawra XIII, although the rim is slightly taller, the rim has the pattern on both sides (Tobler 1950:pl. CXXXI/217). Comparisons come from Thalathat VIIb (Egami 1959:fig. 53/3), Nuzi (Starr 1937–39:599; pl. 46/C, D, E, G) and from Tell Abu Husaini in the Himrin (Invernizzi 1980:fig. 84). In general, pottery from that site, if decorated at all, is more frequently incised than painted. The same is true at Tell Madhhur, another Late Ubaid site in the Himrin. However, here the rarer painted pots have parallels in the Ubaid pottery at Tell Uqair, especially in the use of a "goat" motif (Jasim 1985:160, and fig. 261/8–10; Lloyd and Safar 1943:pl. XIX/a). A jar with comparable decoration was found at Tell Hasan, a third Late Ubaid site in the Himrin (Jasim 1985:pl. 19/b). A fourth Late Ubaid site, Tell ʿAyash, is said to have parallels with Nuzi, Telul eth-Thalathat, and Gawra, although illustra-

tions are not yet published. A vessel in the form of a hoof from ʿAyash can be compared to ones from Gawra XIII and XII (al-Jadir 1980:179, fig. 12; 1979:565, fig. 7; Tobler 1950:pls. CXXXII/231, CXL/326). Among the plain pottery from Tell Madhhur one might mention deep U-shaped vessels (Jasim 1985:fig. 258/4, 5), which are a type seen in Gawra level XII, where it was used for burials, and in Thalathat level VIIa (here, fig. 12/1).

An incense burner with architectural decoration (Tobler 1950:pls. LXXVIII/d, CXXXII/228) may indicate the type of object to which belonged a cylindrical ceramic object from Thalathat with perforated triangles (Egami 1959:fig. 54/8). The incense burner from Gawra (here, fig. 3/13) may also be compared to a painted one of the Ubaid 4 phase from Eridu with related architectural decoration (Safar, Mustafa, and Lloyd 1981:160; figs. 74, 81). In general, however, ceramic correlations between north and south are only about half as numerous as those that could be established for the Early Northern Ubaid period (Perkins 1949:90–93, passim).

In the well of Gawra XIII, the contents of which preceded at least the building of the so-called Northern Temple of XIII (Tobler 1950:31–32, 35), were found stamp seal impressions of distinctive design, which must belong to the first part of the period, if not to the preceding level XIV. One group continues the dovetailing, rotating composition of thin figures found first in Stratum XV (ibid., pl. CLXIV/100–102). Others show increasingly substantial figures concentrated in the lower part of the seal as on a base (pl. CLXX/173). In an imprint with a gazelle-horned demon (pl. CLXIV/94 [here, fig. 6/8]), a more vertically directed composition is found, perhaps even an axial one, if the seal is correctly reconstructed.

Most of the ornamental seal designs from the well of Gawra XIII have patterns of parallel lines in different directions but related to a median axis (Tobler 1950:pl. CLX/38, 39, 43, [here, fig. 6/9]; pl. CLXI/48). Some of the designs of imprints found in the well and elsewhere in stratum XIII suggest vegetal forms like leaves, marked by short parallel lines (pl. CLXI/62, 64). This type of seal design lasted into the Gawra period since some examples are known from Gawra XI and XI-A (pl. CLXI/59, 60, 61). A seal of this type was found at Qalinj Agha (Erbil) (al-Soof 1969:33, pl. XX [here, fig. 6/10], compare to Tobler 1950:pl. CLXI/60), a site that seems to be contemporary with Gawra XII to XI-A (see below).

The Absolute Chronology of the Ubaid Period

Since very few radiocarbon dates from Mesopotamia are available, one has to keep in mind the relations between the north and the south and the connections with areas outside Mesopotamia. As stated above, the date for Choga Mami Transitional may indicate that Ubaid 1 started around 5500 B.C. How long it lasted is uncertain since there are no radiocarbon dates for Ubaid 2. For Ubaid 3 and Early Northern Ubaid, synchronisms occur between Ras al-ʿAmiya, Early Ubaid 3, and the Mehmeh Phase of Tepe Sabz in Iran and between Himrin sites with Dalma impressed ware and the Dalma culture of Iran. Also, the end of Halaf seems to overlap slightly with Early Northern Ubaid. A date for the Mehmeh phase, when calibrated, falls in the second half of the sixth millennium (Hole, Flannery, and Neely 1969:333, No. I-1493; cf. Voigt and Dyson, this vol., chap. 6), while one for the Dalma culture suggests early fifth (P-503: 5100–4835 B.C.; Voigt and Dyson, this vol., chap. 6). These, coupled with Hole's observation that Halaf ended ca. 5000 B.C. (see above), suggest that Ubaid 3 belongs in the first half of the fifth millennium. Dates for Ubaid 4 and Late Northern Ubaid are also somewhat uncertain. Radiocarbon determinations from the uppermost Ubaid levels at Tell ʿOueili fall in the first half to third quarter of the fifth millennium (see table 1; Huot 1983:201). A date from Tell Madhur points to the middle of the fifth millennium (BM-1458:4460–4400 B.C.; see table 1), while dates for the Pisdeli culture in Iran suggest the second half of the fifth millennium (see Voigt and Dyson, this vol., chap. 6):

P-1841	4430–4115 B.C.
P-1842	4410–3930 B.C.
P-157	4440–4085 B.C.
P-504	4450–4335 B.C.
P-505	4565–4414 B.C.

The Madhur date probably does not come at the end of Ubaid 4, since there are said to be "four main building levels with numerous phases" above the level from which the radiocarbon sample came (Roaf 1982:43). Thus, perhaps Ubaid 4 (which here includes Oates's "Terminal Ubaid"; (J. Oates 1983:263) dates to the last half of the fifth millennium, ca. 4500–4000 B.C. Until more is known about the absolute chronology of the Early Uruk period (see below), this is, of course, very tentative, especially in light of the ʿOueili dates.

The Gawra Period in the North and the Uruk and Jamdat Nasr Periods in the South

The Gawra Period

This period, roughly equivalent to the Uruk and Jamdat Nasr periods in the south, is named for the site that has provided the longest stratified sequence in north Mesopotamia. The term was retained despite the fact pointed out by Roaf in his discussion of the Uruk levels at Tell Muhammed ʿArab in the Eski Mosul region that the

Gawra assemblage is not found at other sites of the area since in northern Mesopotamia "the results at different sites do not appear to repeat" (Roaf 1984a:154). As an example he cited the absence of beveled-rim bowls from the Gawra publication, whereas at Nineveh, only a few kilometers away, they are characteristic of level 4. However, some connections with the sites of Telul eth-Thalathat and Qalinj Agha and others can be established, as pointed out below.

The Early Gawra Phase

The most striking feature of this phase is the replacement of the stately structures of stratum XIII by the crowded buildings of a town in Gawra XII. Forest convincingly suggests that this stratum also comprises the hardly recognizable stratum XII-A (Forest 1983b:27). Forest also stressed the large number of burials in XII and suggests that a new social structure in the settlement can be deduced for this period (Forest 1983b: *passim*, especially p. 110). In the pottery the tournette was widely employed, and sand appears to have been the tempering material. There is a notable increase in undecorated pottery, although decorated vessels were by far the larger group in publication. The outstanding feature of the level is the ring base, which appears on all types of vessels (Perkins 1949:51 [here, fig. 3/14, 15]). Green wares were most common in stratum XII, but some light brown and reddish brown persisted (Tobler 1950:147). Pottery from Thalathat VIIa, which is said to be mostly of reddish or greenish brown ware (Egami 1959:7), fits in with this description. Furthermore, several shapes have parallels with Gawra XII (see here, fig. 12). A squat pot with beaded rim in Uruk grayware as well as several examples of jars in Uruk redware, all in the Iraq Museum, are said to have come from Gawra stratum XII (Safar, Mustafa, and Lloyd 1981:150–51).

A new type of pottery in stratum XII, although a single example was found in stratum XIII, is the "sprig ware," painted black on a thick brown or red slip (Tobler 1950:pl. CXXXIII/243 [here, fig. 3/16], 245; pl. CXXVII/294, 295; pl. CXXXIX/310, 311). Some pottery from Thalathat, published as coming from "Strata 4b and 10b," appears to be that ware, characterized by its characteristic decoration (Egami 1959:fig. 20/13–21 and p. 7). "Sprig ware" has been reported from several sites farther west, in the Sinjar district, where it occurs at one site in a number of Uruk sherds (J. Oates 1983:262). It has been found at Norsun Tepe in the Keban region of Turkey in a context containing stamp seals comparable to some of Gawra XI–IX and greenish grayware that is mentioned below (Hauptmann 1976:85–87; pls. 1).

A few sherds of a hard-fired greenish gray pottery with incised, applied, and stamped decoration, which became more plentiful in the following strata (Tobler 1950:pls. LXXIX/a–d, LXXX/a), are in the University Museum, Philadelphia, clearly marked "12." They were not mentioned in Tobler's publication. About ten probably similar sherds described as greenish buff, highly fired with incised and stamped decoration, were found at Qalinj Agha in level III (al-Soof 1969:22).

Double-horned, large clay objects were found at Gawra in stratum XII, XI-A, XI, and IX (here, fig. 3/17). In one instance in stratum XI, such an object was found in association with a heap of ovoid sling pellets. Examples of such objects were found in all three levels at Qalinj Agha (al-Soof 1969:4–7) and in the west, at Brak (Mallowan 1947:pl. XXXIX/2). So-called hut symbols, another new and perhaps symbolic form, which began at Gawra in stratum XII—one sun-dried and fragmentary example from stratum XV may not belong to the group—were also found in all three levels of Qalinj Agha (al-Soof 1969:pl. XI). Also spindle whorls, plain and decorated, especially with incisions, which were numerous in levels XII–XI at Gawra, were found in all three levels at Qalinj Agha.

In the seals of Gawra XII all ornamental designs are simplified. There are many small seals with simple geometric decoration based on the division of the circle (Tobler 1950:pl. CLVIII/14; pl. CLIX/16, 17, 24, 25, 27; pl. CLIX/26 [here, fig. 6/11] was found "below XII"). Most of these seals are hemispheroids ranging from low to high and from small to medium sized. Many of the geometrically decorated ones are said to be of white paste.

A few seals of this stratum have a single horned animal figure engraved on the base, usually with forelegs bent or stretched out obliquely (Tobler 1950:pl. CLXV/109 [here, fig. 6/12], 110, 111). Two of these seals also have holes or grooves in the back for inlay, a new feature that also occurs on stone studs in Amuq Phases F and G (Braidwood and Braidwood 1960:254, fig. 192/2; p. 333, fig. 255/2) and in kidney-shaped seal amulets from Brak, three of which were found in the Gray Brick Stratum (Mallowan 1947:pl. XVII/9, 13, 23).

Ritual and other scenes with more than one figure seem to have had their inception in seals of stratum XII and continued into XI. In general, glyptic art fails to show the abrupt change from some painted to almost completely monochrome pottery between strata XII and XI-A. In fact, two imprints of the same seal (Tobler 1950:pl. CLXIII/82, 83) were found in strata XII and XI-A respectively (Amiet 1980:pl. 2/44 shows a combined drawing). Although this may be an accidental division into levels at the time of the excavation, the general continuity in the seals from one level to the other is interesting, in

view of the violent end of stratum XII (Tobler 1950: 25–26).

The Middle Gawra Phase

Strata XI-A–X are here joined in a Middle Gawra unit, which partially corresponds to the amalgamation of these strata suggested by Forest on the basis of a reevaluation of their architectural plans (Forest 1983b:26–27), although he would link the early phase of stratum XI-A with stratum XII. The character of this Middle Gawra period is marked architecturally by the fact that XI-A was a fortified town with a strong inner citadel, the Round House (Tobler 1950:18). Possibly "sling balls" in heaps found throughout strata XI-A and XI at Gawra (ibid., p. 173), Thalathat (Egami 1959:4), and Qalinj Agha (al-Soof 1969:4) reinforce the impression of latent warfare, although Jasim has recently questioned their practicality in such a function (Jasim 1985:62).

Tombs, in which were buried persons probably of higher status than those in simpler inhumations (Forest 1983b:69ff. and passim), were built of stone or mudbrick and were placed in a cemetery or within the grounds of a habitation or a temple (in stratum XII, tombs had been built of pisé). For the rich tomb of a child, locus 181 (Tobler 1950:101, 116–17), which Tobler assigned to stratum XI and was dug into XI-A, Forest prefers a date in stratum VIII, a suggestion supported by parallels for the gold objects, like the rosette in tombs of the later stratum (Forest 1983b:53, n. 178 [here, fig. 3/18]).

In Gawra XI-A the first of a series of temples was built, which continued with minor variations through stratum VIII. These have the tripartite plan of the earlier temples at Gawra, with a long central chamber flanked by subsidiary rooms. The corners are oriented to the cardinal points as in the south (see below), however, a portico entrance in Temple XI, which became even more accentuated in strata IX and VIII (Perkins 1949: 174–75), seems to be a distinctive northern feature, as is its entrance in a short wall, opposite the podium (Tobler 1950:pls. II, V, XXII).

At Thalathat was found a related type of building in which smaller rooms of various sizes and plans were arranged along the long sides of a central rectangular room. Two such buildings were found at the site, one in "C-Period Layer" which equals VIIa, probably contemporary with Gawra XII, but the central room had two phases of which the second belonged to "B-Period Layer," which equals VI/V, probably contemporary with Gawra XI-A–XI. The large size of the building and hoard of sling pellets on the floor of B, as well as a strikingly niched buttress on the southern wall of the central room, mark the building as something more important than a private dwelling. A second building of this type with a more compact plan, found in Trench IX, was said to be of Uruk date but no specific level was given. On the basis of an altarlike mud brick pier, the building was thought to be a temple. Related types of buildings at Thalathat and Qalinj Agha are discussed by Dunham (1983:35–38).

The pottery of Qalinj Agha levels III and II corresponds to that of Gawra in the lack of painted decoration and in having among its most prevalent forms a flat-based bowl with flaring sides, either buff or reddish in color and of coarse or semicoarse ware (al-Soof 1969:8 and passim; Tobler 1950:pl. CXLI/328 [here, fig. 12/6]). Important in these levels is a specific type of double-mouthed pot with the necks close together and set more vertically on the vessel than in earlier examples from Gawra XI-A (Tobler 1950:pl. CXLIII/356 [here, figs. 3/19, 12/5]), the Himrin (Jasim 1983a: fig. 12/7), and Thalathat level XIV (Fukai, Horiuchi, and Matsutani 1970:pl. LXXV/19). A fragment of such a pot was found at Qalinj Agha (al-Soof 1969:15), and a fine example comes from Thalathat level VI–V (Egami 1959:pl. XIX/1). Double-mouthed jars are also reported from Early Uruk pottery at Eridu (al-Soof 1973:18, 1967:pl. XLVII, type 41; Lloyd 1948:50). Lloyd suggested that the earlier pottery phase at Eridu is contemporary with Uruk-Eanna XIV–VII (Lloyd 1948:51).

Seals from Qalinj Agha support the correspondences so far established with Gawra XI-A and XI. One of the seals shows several animals, specifically a goat and above it a small dog with a disembodied horned head in the field (al-Soof 1969:pl. XX, upper right), which can be paralleled by several sealings from Gawra XI-A and XI for which such designs are characteristic (Tobler 1950:pl. CLXIX/163, 166, 169, pl. CLXX/170 [here, fig. 6/13]). Even the simple geometric designs of two stamps from Qalinj Agha (al-Soof 1969:pl. XX, lower left and middle) correspond in the central hollow of the rayed design to an example from Gawra XI-A (Tobler 1950:pl. CLX/36).

Gawra, however, has a number of other important innovations among the seal designs of strata XI-A and XI. The human and demonic figures are now often completely upright and have a human gait (Tobler 1950:pl. CLXIII/81, 89). A significant motif is the demon with human body and the head of a mountain goat holding a serpent (pl. CLXIII/81 [here, fig. 6/14]), comparable to a seal impression of layer 25 at Susa (Amiet 1971:fig. 35/2, text, pp. 219–20), and to another example on a sealing from Susa B, the earlier chronological determination for levels 27–23 (Amiet 1980:pl. 6/118). Connections between Gawra, Susa, and Giyan on the basis of these and other motifs have been frequently made (D. H. Caldwell 1976). Another characteristic motif of this period is that of a couple in an erotic scene, either seated and represented identically or bending over (Tobler 1950:pl.

CLXIII/86, 87); the latter rendering may be paralleled in a seal from the end of Giyan V with horned figures (Contenau and Ghirshman 1935:pl. 38/24; perhaps pl. 38/22 represents a related motif).

Designs composed entirely of disembodied heads of horned animals are another feature of the period (Tobler 1950:pl. CLXIX/168, 169; pl. CLXX/170 [here, fig. 6/13]). Susa has intricate geometric patterns produced by heads of horned animals arranged on a cross within a circle, closely related in style to a purely geometric design found in level 25 (Amiet 1971:fig. 35, 3), and therefore probably contemporary. With this group might be associated the large stamp impression of Uruk XII (Jordan, in *UVB* 3, pl. 19/a).

Syro-Cilician connections in Gawra XI-A are manifested by the rectangular imprint of what must have been a gable-shaped stamp seal with three large horned animals (Tobler 1950:pl. CLXVIII/155 [here, fig. 7/1]) engraved on the rectangular sealing surface in the manner of numerous gables from Syro-Cilicia (e.g., Hogarth 1920:pl. IV/90, 91, 93), the precise date of which in Phase F or late E of the Amuq remains to be established.

The typical seal designs of Gawra XI-A and XI, with numerous animals, especially saluki dogs, pursuing horned animals or standing above or below them (Tobler 1950:pl. CLXVIII/157 [here, fig. 7/2]), of which the sealing from Qalinj Agha is an example, are also paralleled at Arpachiyah in "Superficial strata" (Mallowan and Rose 1935:pl. IX/605, 612) and in the "early series" at Nineveh (Mallowan 1933:pl. LXIV/13, 14).

The Late Gawra Phase

The Late Gawra phase, strata IX–VIII-c, is here taken to be contemporary with the Late Uruk and Jamdat Nasr periods in the south. This correlation is shown mainly but rather tenuously in the seal designs; architecture does not permit any specific correlations between levels, and pottery manifests only the general feature of the wheel-made technique beginning in stratum IX and becoming common in VIII. The fabric is light buff, which is the characteristic color of the pottery in this period. Beveled-rim bowls, the hallmark of the Uruk period, were not illustrated among Gawra pottery drawings and photographs, nor at Qalinj Agha or Thalathat, although they were recorded from Nineveh, levels 3 and 4, Nuzi IX and VIII, from Grai Resh and Gerdi Resh (Perkins 1949:57, 163, 165, 170, 199; Hijara 1976:59ff.), from Tell Brak and Tell Leilan.

A tie with the south is stressed even more strongly by the few seal impressions found in stratum IX which indicate a relation with the massive modeled forms of the imprints found in Uruk IV. The closest parallel for the example here given (Tobler 1950:pl. CLXIX/165 [here, fig. 7/3]) seems to come from Uruk IVb (Lenzen 1950:pl. 4/8 [here, fig. 7/5]; note especially the stylization of the animal's legs). In a second imprint from Gawra IX (here, fig. 7/4), two human figures are shown in profile instead of with the earlier convention of a triangular frontal thorax. Such profile renderings are again related to the glyptic style of Uruk IV, although other details are unparalleled there.

The animals with crossed horns and necks on the stamp sealings of stratum VIII at Gawra (Speiser 1935:pl. LVIII/31 [here, fig., 7/6], 32, 33) are somewhat reminiscent of cylinder seal impressions from Habuba Kabira, north Syria, where birds are seen with entwined necks and horned animals with entwined tails (Sürenhagen and Töpperwein 1973:28, Abb. 6/a and p. 30, Abb. 8/a, b). The principal parallels for the new small- and medium-sized seals of Gawra VIII, engraved with one or at most two horned animals or felines (Speiser 1935:pl. LVI/8–14; pl. LVII/15–27), can, however, be found in Brak in seals from the Gray Brick Stratum (Mallowan 1947:pls. XVIII–XX, *passim*), assigned to the earlier Jamdat Nasr period, and in examples from the Amuq sites from Phase G (Braidwood and Braidwood 1960:330, fig. 253/8–11), equated with the later Protoliterate and Early Dynastic I ranges (ibid., p. 516).

Especially striking at Gawra, Habuba Kabira, and Brak is the placing of animals tête-bêche (here, fig. 7/7) and of showing horned animals with three legs (here, fig. 7/8). Opposed pairs of volutes are also seen at all three sites. The example with volutes from Gawra is on a terracotta seal cursorily made and actually found in stratum VII (Speiser 1935:pl. LVI/6), where it is one of the few survivals of stamp seals in a level otherwise characterized by cylinder seals. West-east influences indicated by these stamp seals are further documented by an impression of a large plaque or gable found in Gawra VIII (Speiser 1935:pl. LVII/28) and by actual plaques of the same group from strata VIII and VII (pl. LVII/29, 30). Relations with Syro-Cilician gables are suggested by the size of the designs and by similarities, in the rendering of the animals and fillers, to gables from various sites in Syro-Cilicia (see especially a gable of "bronze" bought near Antioch: Hogarth 1920:pl. IV/103). While stamp seals remained as the seal form of Gawra VIII, cylinder seals appeared at Thalathat (Fukai, Horiuchi, and Matsutani 1974:pl. XXXVIII/6–9; Egami 1959:fig. 38/8). Conceivably these cylinders, although said to be of Jamdat Nasr type because of their resemblance to some from Sin Temple IV at Khafaje, which was formerly assigned to the Jamdat Nasr period, belong already to the transition to Early Dynastic I, a period in which various seal types and styles were used concurrently in different regions. Publication of the excavations of Early Dynastic I levels in the Himrin area will probably provide some approxi-

mate dates for a period which is as yet insufficiently known.

In the Himrin basin very little evidence has been found for the Uruk and Jamdat Nasr periods. In a small sounding at Tell Rubeidheh a large quantity of beveled-rim bowl fragments was recovered along with pottery similar to that found at Gerdi Resh in the Shahrazor Plain to the northeast (Postgate 1979:591; Postgate 1972:141; Hijara 1976). At Tell Gubba, a round building with eight concentric walls was excavated by the Japanese expedition to the Himrin working at Gubba and Songor (Fujii 1981: 141–47). The earliest levels are said to be "Protoliterate" (Postgate and Roaf 1981:176).

The largest area of remains of the Uruk period in the north, contemporary with the Gawra period, was uncovered at the huge site of Tell Brak (D. Oates 1985a). The intermediate position of Brak between the cultures of north and south in Mesopotamia is revealed in the plan of the Eye Temple. It shows "an adaptation of the cruciform tripartite plan, known already in the Hamrin and at Gawra in the 'Ubaid period" (J. Oates 1985a:179). Plans of this type of building have been conveniently collected by Roaf (1984b). Characteristic of the north are the storage areas guarded by massive walls; however, the decorative articulation of the walls by niches and salients, and the use of stone mosaics and rosettes (here, fig. 3/20), are features comparable to buildings at Uruk and at other sites in the south. There exists no parallel, however, for the rich decoration of the altar in the Eye Temple, which had strips of gold sheathing over wood, together with strips of white and blue limestone and shale (Mallowan 1947:93–94).

In recent excavations at Brak a series of Jamdat Nasr platforms of the Eye Temple has been noted, but the date of the earliest Eye Temple has not yet been determined. However, the appearance of a human eye as a conspicuous decorative motif on Late Ubaid pottery from levels below the earliest Uruk ones (which were found 14 m below the surface of the tell) indicates an early inception of the cult represented by this symbol (D. Oates 1987:176).

In connection with the Late Ubaid painted ware of Brak, attention should be drawn to the pair of clay horns found near the Eye Temple platform (Mallowan 1947:184; pl. XXXIX:2). Similar finds were made at Gawra and Qalinj Agha.

The Uruk sequence at Brak is said to be the fullest yet known; especially important is the evidence for an Early Uruk phase, some characteristics of which, as given by Joan Oates, are "burnished red ware, hole mouth vessels (both red and grey), bowls with criss-cross incised bases, very distinctive stamped and incised pottery, and large numbers of 'wide flower pots' " (J. Oates 1985a:178).

For the Late Uruk–"Jamdat Nasr" levels 9–13, Joan Oates cites the following characteristic types (J. Oates 1985a:176–77): crudely finished platters and a wide "flower pot"—flat-based coarse vessels of a type known at Tepe Gawra; some beveled-rim bowl sherds; casseroles and finely corrugated rim interiors; and eggshell-quality bowls. Also characteristic are a stone bear and an alabaster spectacle idol (D. Oates 1985a pp. 163, 173; pl. XXV/a–c, e), the latter related to the "Hut Symbol" from Tepe Gawra (Speiser 1935:pl. XLIV/c, probably from stratum IX). There was also "a particularly fine bulla (Pl. XXX, *a*), in conventional typology Warka V–IV . . . found unequivocally stratified *beneath* level 12 (immediately below the lowest of the upper levels)" (J. Oates 1985a:176). The most striking feature of the cylinder seal impression on the bulla is a delicately engraved vulture, probably of the gigantic type seen paired on a cylinder seal impression from Habuba Kabira (Sürenhagen and Töpperwein 1972:28, Abb. 6/a). The relationship may serve to confirm the date of the Brak impression within the Late Uruk period.

Joan Oates states that Brak lacks "the agreed southern criteria for 'Jamdat Nasr', i.e. the polychrome pottery, which so far has not been found in the north, and the Warka III type of tablet" (J. Oates 1985a:176).

The Uruk and Jamdat Nasr Periods

The Uruk Period

The Uruk period derives its name from the great Sumerian town of southern Mesopotamia. Only a series of magnificent buildings, interpreted as temples and their subsidiary structures, has been excavated; nevertheless, these remains indicate the stage of urban development that had been reached in Mesopotamia. The period has been variously named and subdivided (Johnson 1973:52, table 12). In the present chapter the division into an Early, Middle and, Late phase, made in the 1965 edition of *Chronologies*, is retained. The division follows the strata observed in the Eanna precinct of Uruk. Early Uruk corresponds to Eanna XIV–IX, Middle Uruk to Eanna VIII–VI, and Late Uruk to Eanna V to IV/III. These divisions are tentative and subject to change as are all of the periods before the end of the Early Dynastic period, and even thereafter.

The Uruk period is marked in the archaeological remains of southern Mesopotamia and in the areas to which the Uruk culture extended by a light-colored, unpainted, but significantly often wheel-made ware. The early phase of this pottery was first recognized in the excavations at Uruk, the modern Warka, in the deep sounding of the precinct known as the location of the later Eanna sanctuary of the goddess Inanna (Jordan, in *UVB* 3: pl. 10, plan 1, pp. 18–19; Nöldeke, in *UVB* 4: pls. 17D–20, text, pp. 31–47). While the pottery of the period can be divided

into Early, Middle, and Late Uruk, most of the other artifacts cannot be assigned with any certainty to a time before the Late Uruk phase.

Pottery surveys were made to determine the settlement patterns of the "Uruk Countryside" (Adams and Nissen 1972). In the Early-Middle phases of the Uruk period the focus of settlement appears to have been in the Nippur-Adab region, but in the Late Uruk period this had shifted southward toward the environs of Uruk. Indeed, Uruk appears to have been the single large center in the south, apparently dominating a surrounding area of much smaller "rural" communities (Adams and Nissen 1972:18). The hierarchy of settlement sizes, which was to be apparent in the Jamdat Nasr and Early Dynastic periods, began in the Late Uruk phase. In contrast to the situation around Uruk, the Nippur-Adab area had several large sites, perhaps contending centers, with fewer smaller settlements in their environments. Adams suggested that this may have been a prototype of the later pattern of contending city-states (Adams 1981:75). In the Ur-Eridu area of the extreme south, settlement apparently declined. During the Early Uruk phase, Eridu seems to have increased its size, while smaller surrounding sites were abandoned. Ur seems to have been a small town throughout the period. In the Late Uruk phase several small settlements to the northwest of Ur were also occupied (Wright, in Adams 1981:325–26).

The Early Uruk Phase

The unpainted plain ware of the Early Uruk phase at Eridu, originally examined by Seton Lloyd (1948), yielded straight-spouted jars with the spout placed high on the shoulder (here, fig. 3/22). A variation of this type, characteristic of the earlier Eridu group, has the spout placed directly beneath and sometimes touching the rim, corresponding to vessels from Uruk-Inanna XIII; these spouts are often false (here, fig. 3/23). Double-mouthed jars usually had globular bodies, perhaps comparable to those of Gawra XI-A (Tobler 1950:pl. CXLIII/356 [here, fig. 3/19]). There were also many fragments of open bowls, each bearing a ledge or lug handle directly beneath the rim. A redware, common in the early group, may have had its origins in the Ubaid period, since fragments were found in Eridu XI. As summarized by al-Soof (1973), four types of redware vessels occurred in the early group (here, fig. 3/24–27), with some analogies from Uruk, Eanna XIII–XII. The gray Uruk ware seen at Warka from levels XIV–VI is said to have a fine gray slip applied to both the interior and the exterior. The beveled-rim bowl (here, fig. 3/28), is one of the guiding fossils of the Uruk period, beginning in Uruk-Eanna XII and lasting into the successive period. It spread from southwest Iran to Syria in great quantities, the reasons for which have been debated but not fully explained. In level XII of the deep sounding in the Eanna precinct was found an imprint of a large stamp with flat sealing surface (Jordan, in *UVB* 3:pl. 19/a). Engraved on it are animal heads with sinuously carved horns, symmetrically disposed on either side of what could be the vertebral column of an animal. The design has been compared to a stamp seal impression from Susa B (Nagel 1963:46, Abb. 95) and to an extant seal from the same level (Amiet 1980:23; pl. 7, fig. 140), with both of which it may be contemporary as well as with a group of seals from Gawra XI-A and XI (Tobler 1950:pl. CLXIX/168–69; pl. CLXX/170–72.

The Middle and Late Uruk Phases

The Middle Uruk phase, corresponding to Eanna VIII–VI, was paralleled at Nippur in Inanna levels XX–XVIII. Hence the Nippur sequence as published in the 1965 edition of *Chronologies* illustrates the pottery development and correlations in the south. For the sequence in the north after the Gawra period, see G. Schwartz and H. Weiss in connection with the sequence at Leilan (this vol., chap. 10).

At Uruk little is known about the architecture of the Middle Uruk phase. In Eanna, levels VIII–VI were excavated only in the sounding of 1932. No further buildings have been stratigraphically linked with these levels, although on the basis of glyptic styles the *Kleinfundeschicht* of the Anu Ziggurat may go back that early, and consequently levels D–E may be Middle Uruk. Schmidt's analysis of the levels northwest of the Stone Cone Temple suggests that the valuable limestone and concrete of that temple were first removed sometime between levels VI and IV, so that the temple could have been erected in level V or VI, and levels below it could have belonged to Middle Uruk times (Schmid 1977). The use of *Riemchen* bricks may have started in Eanna VI and lasted through Eanna III (Lenzen, *UVB* 20:6, n. 2).

The architecture of the Late Uruk levels of Eanna, levels V–IVa, is better known. These levels show rather elaborate layouts of monumental buildings in relation to courts and subsidiary buildings, all enclosed by a precinct wall. While the outer wall of the precinct and, hence, its boundaries may have remained relatively unchanged from level IVc up through level I (Schmid 1977:47; Lenzen, in *UVB* 20:11), the buildings within it were constantly rebuilt, and every rebuilding involved significant changes in plan (Lenzen, in *UVB* 25:14–22, *passim;* Dunham 1980:72–102). The most common type was that of a tripartite plan with large rectangular central room, either straight or T-shaped, flanked on both sides by symmetrically planned smaller rooms. None of the buildings in Eanna contained an "altar" or any unequivocal furnishings of a sanctuary, although many of them

had the niched and buttressed walls characteristic of Mesopotamian temple architecture. The tripartite plan is called that of a *Mittelsaalhaus* by Heinrich (1982:7–14; Ludwig 1980:64) and has been found in Uruk period settlements in north Syria in houses as well as in buildings that seem to have been temples (Habuba Kabira Süd, Tell Qannas, Jebel Aruda, in Strommenger 1980b; van Driel and van Driel-Murray 1979; Finet 1975). This type of plan, the predecessors of which can be seen at Eridu in levels VI–XI, may be considered, perhaps, as a southern development of the "common Ubaid house plan" mentioned above for the Himrin and the north. A similar suggestion was made by Heinrich (1982:8–9) in relation to the plans of Gawra.

Although the Late Uruk period is divided into four levels in the Eanna precinct, levels V, IVc, IVb, IVa, these are all quite interrelated, since often a building would last from one level to another, for example, the Limestone Temple. Especially closely related are levels IVb and IVa since several buildings of IVb lasted into IVa for a time (Lenzen, in *UVB* 24:13–18). The use of cone mosaics for wall decoration, which may have started as early as Late Ubaid times (Schmidt 1978:12), achieves its greatest development in these levels (here, fig. 3/29). The buildings of level IVa appear to have all been destroyed about the same time and, indeed, rather suddenly, since some structures seem unfinished (Lenzen 1975:169).

Southwest of the Eanna precinct is the Anu Ziggurat complex which involves three parts: an ancient artificial hill of mud-bricks, forming the ziggurat; a huge terrace on the northeast under the Seleucid "Bit Resh" temple; and a curious subterranean stone building, the *Steingebäude*, on the northwest. The earliest levels of the ziggurat probably date back to Late Ubaid times, but these are not yet coordinated with the twelve levels identified counting down from the surface. Of these twelve, only the top five, A–E, have been explored enough to yield comprehensible plans. Temples of the *Mittelsaalhaus* plan stood on top of the ziggurat in levels E–D and B—the White Temple—and probably also in C, although only the outlines of buildings in postholes, C2, or red lines, C1, were found in this level. Convincing arguments that there was only one surrounding state (*Ummantelung*) instead of two, D and E, below the C and B states on the Anu Ziggurat, were set down by Margueron (1986). Between C and D an intermediary level of rubble contained many small finds, the *Kleinfundeschicht*. Level A actually includes three separate mud-brick encasings of the ziggurat, A1, the earliest, to A3. By the time of the second of these, A2, a huge terrace was made to adjoin the ziggurat on the northeast (Schmidt, in *UVB* 28:13–23). In 1936–37 Heinrich found an earlier phase of this terrace which may be contemporary with level C on the basis of the seals in the rubble overlying this terrace (Behm-Blancke 1979:54–55; Heinrich, in *UVB* 9:23–24). Attempts to correlate the Anu Ziggurat levels with those of the Eanna precinct are based on the most diagnostic specimens among the small quantities of pottery and small finds found on the ziggurat and the northeast terrace. The most recent evaluations indicate that while there is nothing from the A-levels that can definitely be said to be later than Eanna level III, there are finds from the earliest A-level, A1, which could be as early as Eanna IV; seal impressions from the postholes of level C and the earlier phase of the northeast terrace have closer stylistic similarities to seal impressions from Eanna IV than to those from Eanna III (Behm-Blanke 1979:54–55, 60f.; Dunham 1980:131–45). The context of the Jamdat Nasr sherd by which Lenzen dated all levels from level L to the Jamdat Nasr period seems questionable and may be disregarded. Hence, level B and the White Temple would be contemporary with Eanna level IV. The finds from the *Kleinfundeschicht* might be dated earlier on the basis of the glyptic remains (see below). The *Steingebäude* probably dates somewhere in the range of levels E–B, or A1. A tall jar with a narrow neck, folded-over rim, and drooping spout, which comes from the foundation trench of the *Steingebäude* (*UVB* 26–27:28; pl. 30b), is similar to some from the A1-level of the ziggurat and the destruction levels of the Stone Cone Temple. This type of jar has not been found elsewhere in the Eanna precinct, although short, narrow necks with folded-over rims are illustrated for Eanna levels VII–IV (Haller, in *UVB* 4:pls. 18D/a′, 19B/p″, 19D/v, 20A/n,o) and bent spouts begin in Eanna level VII (pl. 18D/u′). Tall jars with foldover rims and bent spouts are known from Susa in Le Breton's Cb phase and level 17a of the new excavations and from Habuba Kabira (Le Breton 1957:101; fig. 12/5b, 6b, 7b; Le Brun 1971:fig. 52/5; Sürenhagen 1978:Taf. 17/102 [here, fig. 3/30]), which implies that the type is Late Uruk in date.

New work at Uruk, begun in 1982, was a systematic survey of the area within the city wall (Finkbeiner 1983). In the second campaign the fields in front of the city wall were included (Finkbeiner 1984). The most important result for the Uruk period was the discovery of a settlement on a hill, unusual for that period, which contained typical Late Uruk pottery (Finkbeiner 1985:30–42). Most characteristic were (1) bellied closed vessels with straight or slightly inverted neck and plain rim; (2) bellied jars with short,straight spouts, often with low, inverted neck; and (3) jars with strap handles. On the shoulders, many jars had incised patterns or other decoration. The pottery corresponded to that previously found in Uruk K/L XII in the Late Uruk levels 38–42 (Nissen 1970).

The latest temple platforms of levels I–II at Eridu may date to the Late Uruk period, since they both made use of limestone set in gypsum mortar (Safar, Mustafa, and

Lloyd 1981:78–82), and at Warka both limestone and gypsum seem to have been used extensively in the Late Uruk period buildings: the Limestone Temple, the Stone Cone Temple, and the *Steingebäude*. Furthermore, in Temple I at Eridu, circular or part-circular columns were incorporated in the architectural treatment paralleling the use of columns and engaged half columns in the Mosaic Court of Eanna IVb (ibid., p. 80). Finally, the occurrence of gypsum bricks and stone cones in the debris of Temple I also suggests a Late Uruk date.

At Uqair the Painted Temple probably belongs to this same period, as is suggested by its many similarities with the White Temple and the finding of gypsum cement bricks with a trident mark on them in the debris of its filling (Lloyd and Safar 1943:149; pl. XVI/a). Gypsum cement bricks with incised symbols on them have been found in the *Steingebäude* (*UVB* 29–30:15–16). The "Archaic III and IV" levels of the ziggurat terrace at Ur probably also belong here, based on the association of *Riemchen* walls with small or large cones and limestone paving.

In addition to the archaeological reexamination of the evidence concerning the tablets (here, fig. 3/31), the paleographic work on the script promises new insights and criteria for dating texts. As yet, these firmly dated tablets do not seem to have been examined for dating the seal impressions more reliably than has been possible before. Therefore, the stratigraphic evidence of the Anu Ziggurat is still the best means of arriving at some chronological determination of the development of seal engraving at Uruk. A cylinder found in the intermediate level D–C on the Anu Ziggurat (*UVB* 8:pl. 49a), primarily carved with a mechanical drill, belongs to this initial stage of cylinder seal engraving. It is characterized by very baggy figures, aligned in rows, the simplest composition for a cylindrical object. At the same time, the seal from the Anu Ziggurat has the field filled by various animals as in a stamp seal. Another example (*UVB* 16:47; pl. 25a), the largest cylinder known, is said to come from the rubble of the Jamdat Nasr period kilns in Me XV, but in the same area there had been some structures older than the Stone Cone Temple (*UVB* 17:13, and pl. 29: Schmid 1977: 43–44). It is possible that the cylinder derives from that early level, especially since it was found in the same square as a female torso (*UVB* 16:pl. 16), possibly equally early. Baggy figures and excessive drilling, such as were found on the two cylinders just mentioned, are also characteristic of Middle Uruk period sealings from Sharaffabad in Khuzestan (Wright, Miller, and Redding 1980:279, fig. 6). Similar figures are also said to have been found on sealings from Susa in excavations of the Acropolis I, level 20 (unpublished).

Better-worked forms appear in the sealings on the clay balls found in a hole in a *Riemchen* wall of stratum IV. However, they may have been earlier than their findspot, especially if they contained records from the Stone Cone Temple, which may put them into IVc or V (Brandes 1979:68–69). The earlier ones among the scenes on sealings of cylinder seals showing prisoners (*UVB* 15:pl. 28/c, and pl. 30/a, b [here, partly copied in fig. 8/2]), belong to the same stage (Brandes 1979:pls. 4–11). The subsequent stylistic development toward the fine style of Uruk IVb is not reflected in the stratigraphic evidence. Thus the impression of a fine cylinder seal with the scene of prisoners before a ruler (here, fig. 8/3) had an earlier findspot than the baggy-style prisoner scene above.

At the same time as the fine cylinder seals of the Uruk impressions were being carved, the drilled technique continued on squat, mostly rather small cylinders with certain distinctive motifs, such as pigtailed figures in various actions of which several examples were found in Late Uruk levels in widely distant places. The seal type was extensively discussed by Asher-Greve (1985:12–61, *passim*). The example here reproduced (fig. 8/1) is one of several from the Inanna Temple at Nippur. This one was found in level XV. Other motifs also existed in this strongly drilled, simple style. But it is often difficult to determine the date of such cylinders because their findspot could have been assigned by earlier excavators to the Jamdat Nasr period on the basis of their style.

Like the cylinders, the sculptures of the Late Uruk phase at Uruk, though small in number, present distinctive stylistic characteristics that have value for chronological determinations. These characteristics have been summarized on the basis of small animal figurines (Behm-Blancke 1979). The two figures from the Middle Uruk levels D–C of the Anu Ziggurat (Behm-Blancke 1979:pls. 2/3 [here, fig. 3/32] and 4/18) were not clearly set off as a chronologically distinct group, probably because their number was too small. Nevertheless, their baggy appearance and simple, heavy forms relate them to the cylinders of the period. The criteria of the fully developed style of level IVb are illustrated by a figure from the *Sammelfund* of stratum III, which also contained earlier material (Behm-Blancke 1979:52–53; pl. 2/5 [here, fig. 3/33]). They are plastic definition, stress on the mass and volume, and observation of natural features such as the veins of the face. The same criteria can be applied to some of the major sculptures discovered at Uruk out of context, not one of them in stratum IV. From that phase come objects that convey an idea of the high level of craftsmanship available in Uruk at this age and at the same time convey "indications of wealth, religious complexity, and centralization of political power, with at least partial control over labor" (Perkins 1954:47).

From the *Riemchengebäude* also come "various copper vessels and spearheads as well as animal horns" (Lenzen, in *UVB*, 14:24–25; Lenzen, in *UVB* 15:9–10; pls. 17,

39b). The Uruk excavation reports rarely detail more mundane copper finds. Between levels C and D of the Anu ziggurat were an "astonishing" number of completely oxydized lumps of copper, some as large as a man's fist (Nöldecke, in *UVB* 9:25). Worked copper was also noted in levels of Eanna XI (Jordan, in *UVB* 3: 30). Objects of copper are noted in levels D and E of the Anu Ziggurat (Nöldecke, in *UVB* 8:53, references given by Moorey 1985:24–25).

The Absolute Chronology of the Uruk Period

Since there are no reliable radiocarbon dates for the Uruk period in southern Mesopotamia, one has to look at connections with other areas. The problem here is that although correlations with Late Uruk are fairly clear, sometimes those with Early and Middle Uruk are not. For the Late Uruk there are series of dates from Jebel Aruda, Syria (GrN 7989, 8463, 8464—van Driel and van Driel-Murray 1979; Schwartz and Weiss, this vol., chap. 10), and Period V at Godin Tepe, Iran (Voigt and Dyson, this vol., chap. 6). These all point to the last half of the fourth millennium for Late Uruk, probably ca. 3500–3100 B.C. Since the Ubaid period seems to end ca. 4000 B.C. (see above), Early and Middle Uruk should date to the first half of the fourth millennium. For Middle Uruk a series from Arslan Tepe, Anatolia, discussed by Wright (Wright 1980), suggests the second quarter of the fourth millennium, but a radiocarbon date from Sharaffabad, Iran, is a little earlier: P-2210, 3970–3850 B.C. (Voigt and Dyson, this vol., chap. 6). For Early Uruk there are no available reliable radiocarbon dates. Hence the suggestions on figure 3 for Early and Middle Uruk are tentative (Early ca. 4000–3750 B.C.; Middle ca. 3750–3500 B.C.).

The Jamdat Nasr Period

The name of this period derives from a site seventeen miles northeast of Kish excavated by S. Langdon in 1925–26 and by L. Watelin in 1928. Langdon's excavations, published by E. Mackay (1931), yielded what was called "a Late Prehistoric Administrative Building" (Moorey 1976). The most distinctive finds in the building were polychrome-painted pottery, semipictographic inscribed tablets, and cylinder seals primarily engraved with a drill. These finds were recognized as being later than the Uruk period but earlier than the subsequent Early Dynastic period. In 1930 the directors of the principal excavations in Iraq agreed on the names for a sequence of four periods in the early development of Mesopotmia: Ubaid, Uruk, Jamdat Nasr, and Early Dynastic. The validity of this terminology was confirmed by the excavations at Nippur, where the finds of the levels of the Inanna Temple XIV–XII, following upon the Uruk levels XX–XV, and preceding the Early Dynastic levels XI–VI, yielded material comparable to that of Jamdat Nasr itself. The following material with the accompanying table of criteria attempts to point out some of the salient pottery features of these levels, some of which have already been given in the previous edition of *Chronologies*. A fuller presentation of the pottery is given by Wilson (1980), who notes that "monochrome and polychrome painted vessels, which are considered the primary distinguishing characteristics of the Jamdat Nasr period . . . appear first in Late Uruk and continue sporadically into the early part of Early Dynastic I. Therefore at Nippur, the presence of painted sherds of the Jamdat Nasr type is not an *a priori* indication of a Jamdat Nasr date." To frame the Jamdat Nasr period, some pottery of the last Late Uruk period levels and the earliest Early Dynastic I level at Nippur are given below.

Table of Criteria from Late Uruk to Early Dynastic I at Nippur

Late Uruk Period

XVI–XV Beveled-rim bowls are common. Redware and grayware are prevalent, but reserved slip is evident. The first plum-red slip and monochrome and polychrome painting appears. Bottlenecks with folded-over rim are prevalent, but no flowerpots with folded-over or beveled rims are found in these levels.

Jamdat Nasr Period

XIV Beveled-rim bowls are less common. Redware, but no grayware or reserved slip is present. There is a heavy increase in plum-red slip as well as in polychrome (here, fig. 3/34) and monochrome painting (here, fig. 3/35), and there is an increase in the number of bottlenecks with folded-over rim. Jamdat Nasr types now appear and include flowerpots (here, fig. 3/36) and other conical bowls (here, fig. 3/37) and goblet-type, shallow open bowls (here, fig. 3/38) and trays, low-necked jars, jar caps with plum-red slip (here fig. 5/1), ovoid jars with beveled-edge rims (here, fig. 5/2), and spouted vessels (here, fig. 5/3).

XIII Beveled-rim bowls continue, but there is no reserved slip or grayware or redware. Plum-red slip and monochrome and polychrome pottery continue as before, as do the Jamdat Nasr types.

XII The beveled-rim bowls continue, but now the grayware and reserved slip reappear; the quantity of plum-red slip remains unchanged, but there is a reduction of poly-

chrome and monochrome painting. The Jamdat Nasr types continue as well as bottlenecks with folded-over rim. A rim-lugged vessel and a tray type, both characteristic of Early Dynastic I, first appear.

Early Dynastic I

XI This level finds the end of beveled-rim bowls and plum-red slip. Although the grayware continues, and the amount of reserved slip increases, plum-red slip ends. There is a sharp reduction of monochrome and polychrome painting. The number of the rim-lugged vessel and tray types increases. Solid-foot chalices occur and other Early Dynastic I types appear, including wing-lugged vessels, elaborate incised wares, fenestrated stands, top-shaped hollow stoppers, and theriomorphic vessels.

In the south, such pottery is found in quantity at the site of Jamdat Nasr itself (Mackay 1931), but unfortunately the material is not stratified. There is some meager evidence for a slightly earlier and slightly later occupation. At Kish the material is negligible. Jamdat Nasr levels are present in Pit "F" at Ur, and in the so-called Jamdat Nasr Cemetery perhaps a few graves predate Early Dynastic I (Kolbus 1983). There is very little Jamdat Nasr material from either Fara or al-Ubaid (Martin 1982:147, 150, 1983:24–25). Farther north the period is well represented in the Diyala region by Protoliterate "c," yet the continuation of the Jamdat Nasr "culture" into Protoliterate "d" is chronologically speaking the equivalent of Early Dynastic I at Nippur (Wilson 1986:63–66). Thus far, in the adjacent Himrin region, Jamdat Nasr has been found, for example, in level VII of Tell Gubba (Fujii 1979:517, 1981:153–55, 1984) and might well belong to the Protoliterate "d" phase of the lower Diyala. At Hababa Kabira only Late Uruk pottery is recorded, and the characteristic painted Jamdat Nasr wares are absent in both Syria and northern Mesopotamia; however, Joan Oates has suggested that the recently excavated levels 9–12 in the CH sequence at Tell Brak postdate the "Late Uruk" material and are the equivalent of the Jamdat Nasr period of the south (J. Oates 1985a:176–79). For an example, the tray from CH 591, level 9 (J. Oates 1985a:181, fig. 1/10), is of a type known from Inanna XIV at Nippur (Wilson 1986:fig. 5/11). In the Acropolis sounding of Susa in Iran, strata 18 and 19 are Late Uruk while the position of stratum 17 is chronologically difficult. Strata 16–14B, the Proto-Elamite period, seem to equate with the Jamdat Nasr period (i.e., Nippur XIV–XII), but the span of time probably extends into the early part of the southern Mesopotamian Early Dynastic I. Jamdat Nasr pottery is reported from the Gulf within the Hafit "horizon," but chronologically this may also extend into the Early Dynastic period (Potts, this vol., chap. 4).

At Uruk, Eanna level III belongs to this phase and represents a break in the architectural sequence within the precinct. None of the level IV buildings survived, and, of those assigned to level III by the excavators, not even the so-called labyrinth and the building in which the *Sammelfund* was discovered can be considered to belong to Eanna III with any certainty (Finkbeiner 1986). Carefully laid out pits containing evidence of burning were found in an intermediate layer between levels IVa and III, and were interpreted by the excavator (Lenzen 1955:13) as the remains of a ritual purification of the area, and by M. T. Barrelet (1974) as pits primarily used for the preparation of food but not necessarily excluding ritual purposes.

Observations made by the excavators concerning architectural features of Eanna III are cited here with the understanding that the date of the buildings is uncertain. Thus Lenzen pointed out that cone mosaics continued in use for wall decoration, but now only in panels as, for example, between the buttresses of the court wall to the southwest of the high terrace in levels IIIc and IIIb (Lenzen 1975:174 and references given there).

The latest encasings of the Anu Ziggurat, A1–A3, must belong, in part at least, to the Jamdat Nasr period. A1 probably belongs to the very beginning of the period (see above). The latest encasing, A3, rose in steps, and at the upper edge of one step a band of cone mosaics was found in situ (Schmidt, in *UVB* 26–27:16; pl. 2b). Many more fallen cones were found associated with A2 and A3. Although some cone mosaics were found in situ in Eanna level I[6] (Lenzen 1941:16–17), they are much more chracteristic of Eanna levels IV and III.

With the negative result of the reexamination of the evidence from Uruk, the only major building of the Jamdat Nasr period so far known in the south is the one at the type site mentioned above. Finds of the Early Dynastic I period made there (Moorey 1976:pl. XVc) indicate only that the site was occupied after the conflagration that destroyed the large building. The latter's most distinctive feature is a chain of rectangular rooms, some of which are of equal size and which communicate through doors that were occasionally blocked. These room chains seem to surround courtyards and complexes of rooms. Margueron took issue with Moorey's interpretation of the building and its use in the discussion of early official Mesopotamian architecture (Margueron 1982: 23–34). It is undeniable, however, that this was an important building of the Jamdat Nasr period. It was constructed of *Riemchen* bricks, also used at Nippur for the series of houses of Inanna XIV–XII, and hence it cannot be ignored.

At Tell Uqair the building of a terrace of large mud-bricks, filling the Painted Temple (Lloyd and Safar 1943:145–46), probably occurred during the Jamdat Nasr period. A second filling, traced only in places, but made of similar mud-bricks, may also belong to this period. On the northeast side of the temple platform the "first filling" extended outward to form a terrace about 50 cm high on which were three levels of buildings of *Riemchen* bricks containing Jamdat Nasr painted ware and tablets. The uppermost level contained "painted Jamdat Nasr and a little Scarlet Ware and had *Riemchen* laid in the manner of plano-convex bricks" (Lloyd and Safar 1943:147), thus probably dating to Early Dynastic I. This evidence indicates the gradual transition from Jamdat Nasr to Early Dynastic in contrast to the more sudden break between the Uruk and the Jamdat Nasr period observed at several sites.

An important change in the chronology of the Jamdat Nasr period was suggested by Wilson (1986:64–66) for the sequence of the Sin Temple at Khafajah, where only Sin I–III corresponds in pottery forms and decoration to Nippur, Inanna XIV–XII, whereas Sin IV already belongs to Early Dynastic I, despite the fact that *Riemchen* were still in use instead of the plano-convex bricks characteristic of the Early Dynastic age.

This change is particularly important for the classification of the glazed, ornamentally decorated beadlike cylinder seals (here, fig. 4/1) which constitute a new glyptic type that is closer in shape to Early Dynastic beads than to the small, squat cylinders of the Jamdat Nasr period, the diameters of which are often equal to the height. The technique in which these common Jamdat Nasr cylinders were engraved consisted mostly in an unmitigated use of the drill, a technique probably inherited from the Middle Uruk period. It seems likely, however, that the development within this group was iconographical rather than technological. Pigtailed figures in varying activities (here, fig. 8/1), for example, are represented in five examples from stratified contexts of the Late Uruk period: at Nippur (Wilson 1986:60), at Habuba Kabira (Sürenhagen und Töpperwein 1973:31, Abb. 9), and at Chogha Mish (Delougaz and Kantor 1972: 32/a). One cylinder of this type was found at Uruk in a grave under the skull of the skeleton in Ne XVI 2 (Lenzen, in *UVB* 21:pl. 20/c), which is actually another Late Uruk locus although the date of graves without supporting finds is uncertain. Among the 17 cylinder seals found at Jamdat Nasr, only one has pigtailed figures, and among 1002 cylinders of the Diyala sites (Frankfort 1955:17) only 14 are of this type, and even those are not all good representatives of the group. Other themes among seals of Jamdat Nasr style from the Diyala sites, such as animals before a byre (here, fig. 4/2), are more numerous, as are plain animal rows. It seems likely, therefore, that such seals actually derive from the Jamdat Nasr period, whereas pigtailed figures and other themes such as spiderlike designs belong to the earlier age.

The style of the cylinder seal impressions on tablets of the Jamdat Nasr period differs radically from that of the common cylinders. The impressions continue the style observed on the tablets of Uruk-Eanna IVb–a. The most distinctive of these sealings are narrative scenes with human and animal figures given ample, carefully executed forms. The differentiation between the styles of Uruk-Eanna IV and III noted may years ago by Ann Farkas as consisting of greater detail in the later cylinders (Farkas 1963:26ff.) is supported by the evidence of numerous impressions of a richly varied seal design found in square Ne XVII 1 of Eanna, level III and convincingly interpreted by Boehmer as the seal of an administrative official in charge of work and of the reception of deliveries for the temple (Boehmer, in *UVB* 26–27:71–72; pls. 18–19). Another demonstration that elaborately engraved cylinders continued in the Jamdat Nasr period is provided by impressions on tablets from the building at Jamdat Nasr. The original cylinders with which such impressions were made were generally large, with a diameter about a fifth less than the height. The finest of this type of cylinder (Moortgat 1940:pl. 5/29) has a copper handle in the form of a reclining ram, which was surely made at the same time as the engraving of the cylinder (here, fig. 4/3). The style of the figurine was classified as *Stilgruppe* IIA by Behm-Blancke (1979:24, s.v.2.2.2.), which implies a Jamdat Nasr date for the cylinder. The style of this group has been characterized by Behm-Blancke as retaining the voluminous and massive earlier forms with plastically rounded contours but showing at the same time an excessive stress on some parts of the body either by strong modeling or linear means. Observation of natural features was no longer as precise as in the animal figurines of Uruk-Eanna IVb–a (Behm-Blancke 1979:32). However, the engraving of the cylinder design shows great care in the execution of details and has achieved an extraordinarily pleasing composition. The difference between these rare fine cylinders used on tablets and the common, squat, drilled cylinders, earlier considered to have been a chronological one, was interpreted by Nissen as individual versus collective seals, and their differences to have been caused by the purposes for which they were used (Nissen 1983:86). Collon, reviewing Brandes (Collon 1981–82), also discussed the significance of the differences between these early seal styles.

The classification of larger sculptural works in the Uruk IVb–a or in the Jamdat Nasr period is far more difficult, therefore a partial acceptance of Delougaz's term "Protoliterate," namely, his subdivisions a–c for both periods, may be preferable to assigning an insufficiently supported classification to one or the other period. How-

ever, on evidence available at present, the appearance of the nude bearded hero with curls as a conqueror of animals (here, fig. 5/4) who replaces the priestly ruler figure of Uruk IVb–a and who may have had a more specific local and temporal meaning can be set in the Jamdat Nasr period.

The absolute chronology of the Jamdat Nasr period is suggested by the series of radiocarbon determinations from the Banesh period at Tepe Malyan, Iran (Voigt and Dyson, this vol., chap. 6). These indicate a late fourth to early third millennium range, ca. 3100–2900 B.C.

As repeatedly stated here, the inventory of seals and other objects associated with Jamdat Nasr pottery at various sites in Mesopotamia can be established on the basis of the pottery of Nippur XIV–XII. In sum, the Jamdat Nasr period is definable in Sumer and in the Diyala; outside these areas its presence may be felt, even though it is not as yet recognizable as a distinct entity. Its absence as a unit in surrounding regions is not a reason for denying its existence as a period in the south.

The Historic Periods

The Early Dynastic Period

Early Dynastic period represents the time of the city-states of Sumer. For the growth of the cities and the distribution patterns of settlement see the works of Adams and Nissen in the reference list. Although the survey method of defining the periods of occupation at given sites undoubtedly elicits results that are basically correct, caution must be exercised when the diagnostic pottery types are not neatly confined to a specific period (Martin 1982:155, n. 25; for a critique of the method, see Kohlmeyer 1981).

The absolute dates of the period we depend on a combined series of calculations based on archaeological evidence and the estimated lengths of rulers' reigns in historic times. Often, dates derived from the radiocarbon method yield only very general indications and are not specific enough for the determination of the substages involved. Nevertheless, samples from Mari, Nippur and Tell Abu Salabikh, leaving aside obviously contaminated samples, strongly suggest a date of the mid-third sixth century B.C. for the Early Dynastic IIIa period (Wright 1980:95–96). Furthermore, a recent reevaluation of the published Early Dynastic dates (Hassan and Stronach 1978) neatly confirms the suggested traditional dates for this period as given in *Chronologies* (Edzard 1965:178).

In recent years many details of the systems proposed for classifying the phases of the Early Dynastic period have been questioned. Frankfort's scheme of Early Dynastic I, IIIa and IIIb is based on his excavations in the Diyala region, while Moortgat's system is basically "art historical" in conception. Frankfort's terms are used in this chapter, although it is now clear that the results of the excavations in the Diyala region cannot be used as the main guide for determining the development of the entire period over all of Mesopotamia. In this presentation we have virtually abandoned the term Early Dynastic II except for its use in the Diyala region.

For indicating the upper and lower chronological limits of the whole period or for defining its subphases, no single cultural feature or trait should be used by itself. For example, since Riemchen bricks continued in sporadic use during the earlier part of the period, and since plano-convex bricks were still employed in the early part of the following Akkadian period (Gibson 1982:533, n. 22), architectural changes alone can not characterize the subperiods. Likewise, an art style manifest in sculpture or glyptic, important as it may be in the history of art, is not always the best indicator of an archaeological phase. In the Early Dynastic period, pottery is the most ubiquitous of the archaeological remains, and it is used here predominately in conjunction with architecture, art, and other artifacts to aid in delineating for discussion the parts of an uninterrupted cultural sequence.

Early Dynastic I: The South

This phase of the Early Dynastic period has come to be recognized as one of great importance in the development of Mesopotamia. Although table 2 details some major sites of Early Dynastic I in the south, the relationship between their various levels is only approximate and schematic.

At Nippur the period comprises levels XI–IX A of the Inanna Temple. Architecturally the successive buildings follow one another in general form, but only in level IX does the furniture within the rooms allow for the clear identification of the building as a temple. (For a simplified plan of level IX B, see Hansen 1971:48, fig. 1.) With the destruction of level IX and the filling in of the rooms to form a platform comes the major break in the Inanna architectural sequence. Thereafter, the temple is built with a completely different plan beginning in level VIII (Hansen and Dales 1962:80–82). The pottery from these levels accords well with the comparable Early Dynastic I levels of the Diyala (Hansen 1965:209). The solid-foot chalice (here, fig. 5/5) and the jar with a single triangular lug (here, fig. 5/6) are characteristic of the period, but the scarlet ware so prevalent in the lower and upper Diyala region is definitely lacking, except for the appearance of a few sporadic sherds (e.g., Postgate and Moorey 1976:165). In the recent excavations at Mari only one possible sherd is reported from level 9, a late level in the Early Dynastic I sequence of levels 9–13 (Lebeau 1985:94; pl. XXI:5). Also of interest at Mari is burnished

grayware in levels 10 and 11 equivalent to Early Dynastic I examples from Nippur and the lower Diyala (ibid., p. 94; pls. XXV/40, XXIV/22. 24; Hansen 1965:209).

Chronologically important are a group of cylinder sealings found in a work area within the Inanna precinct but separated from the main temple by a narrow corridor or street (Hansen 1971:47–48). Although there are two sealings from level XI, one of which is from a geometric seal of early "piedmont" style, the majority came from level IX B and A. Those of IX B are comparable to sealings from Ur, Kish, and Fara (see below), while those from level IX A display a stylistic change from a heavy figure style characterizing the earlier level to a slighter, more elegant one (here, fig. 4/4). The later sealings are similar to some from Fara that are generally called the "Fara" or Early Dynastic II style (Hansen 1971:54; Amiet 1980:204–5).

At Ur, sealings comparable to those from level IX B at Nippur come from the Seal Impression Strata (SIS) 4 and 5. These are layers of dumped debris into which the Royal Cemetery was later sunk, and by their very nature ney are difficult to assess. A summary of various opinons concerning the dating of these strata is given by Karg 1984:6–10). SIS 4 and 5 are the equivalent of the building strata C and D of pit "F" (Moorey 1979b:117–18), hich are preceded by levels E–G roughly equating with IS 6–8 and the underlying cemetery, and thus date to e earlier part of Early Dynastic I. Level B, above level contains Fara-type texts and hence postdates Early ynastic I and is in part contemporary with the Royal emetery. There is apparently no real break in the sence, and there is no evidence of material dating to rly Dynastic II as defined by the chronology of the Dila (Moorey 1979b:117–18).

The "archaic" texts from Ur were also found in the Seal pression Strata. Three tablets from level IX A at Nipr (Buccellati and Biggs 1969:5) are clearly comparable the Ur texts.

The cemetery termed "Jamdat Nasr" by Woolley is bally Early Dynastic I in date, with a few of the earliest ves containing polychrome pottery probably belongto the preceding Jamdat Nasr period. The grave maal has recently been studied by Kolbus (1983), who is much of it comparable to that of the building strata E in pit "F." These strata in the mind of the present er belong to the early part of Early Dynastic I.

he meticulously detailed work of H. Martin (1972, 5, 1982, 1983) has greatly clarified the results of the editions in 1902–3 and 1931 at Fara. Early Dynastic terial, including pottery and sealings, has been found d–e of the German excavations and in four of the five y Dynastic levels of the American excavations. Prestratification is lacking. As expected, the pottery of displays a continuous evolution, and according to Martin, "clearly ED II, when judged by its pottery, does not stand out as a distinct period in its own right; it is much more a period of gradual transition from ED I to ED III" (Martin 1982:166; see also p. 151). It seems wrong to force the data into the Diyala chronological framework.

Besides some large geometric sealings dated to the early part of Early Dynastic I, most of those from the Early Dynastic I context I d–e, fall into two groups or styles (Martin 1975:180–82; pl. XXXIX, fig. 6). The first of these (here, fig. 4/5) is stylistically comparable to the well-stratified sealings of level IX B of the Inanna Temple at Nippur, while the second group (here, fig. 4/6) seems to equate with the tenuous and delicate figure style that characterizes the fragmentary seals of the later level IX A. This second style is dated by Martin to *early* Early Dynastic II (ibid.) and by Amiet (1980:54–55) to a Fara *série archaique* of Early Dynastic II. It seems preferable to consider this second style as falling at the very end of Early Dynastic I.

Rich Early Dynastic I material was found at Kish in the so-called Y sounding of Tell Ingharra (Moorey 1979a:99–115; Gibson 1972a:83–86, 1980b:616–17). Painted pottery in the earliest strata indicates probable occupation in the Jamdat Nasr period. These are followed by settlements constructed of plano-convex bricks which must date to the early part of Early Dynastic I (Early Houses Stratum). Intrusive in these levels are graves displaying advanced metalworking exemplified by two copper stands, one of which has a frog cast in the round (Moorey 1982:26 [here, fig. 5/7]). These graves lack the solid-foot chalices and jars with incised decoration that are found outside of them, and Moorey, therefore, suggests that the graves date late in the Early Dynastic I period (1979a:110–11), but he includes the Early Dynastic II of the Diyala within their time span. In terms of absolute dates this may indeed be correct, but in terms of a relative chronology it is highly dubious. The argument seems to rest on the association of the typical Early Dynastic I single-lugged jars with jars with upright handles (here, fig. 5/8). The latter is also an Early Dynastic I type, but on the evidence of Khafajah it is also found in graves dug from Houses 6, the very earliest level of Early Dynastic II in the Diyala chronological system. It seems unnecessary to force an Early Dynastic II date based on such slim evidence. (For the Flood Stratum, the chariot or cart burials, the Red Stratum, and the A Cemetery, see below.)

Besides the rather extensive Early Dynastic I cemeteries of Ur and Kish, a third one was excavated at al-Ubaid. Wright considers that most of the graves belong to Early Dynastic I (1969:79), while Martin interprets the evidence differently and assigns only sixteen graves to Early Dynastic I (1982:147–49, 165). Fifty-nine graves

are assigned to Early Dynastic II–IIIa and more specifically to the early part of IIIa since the tall conical bowls found in these graves seem absent in the Royal Cemetery at Ur. In a detailed analysis of the pottery, Martin stresses the continuity of the pottery types of the Early Dynastic II–IIIa graves and suggests that only certain ones may be dated to Early Dynastic II while others belong to Early Dynastic IIIa (1982:166; p. 179, table 6). Since there are really two different groups of graves among the ninety-six burials, it is doubtful that a truly definable group from Early Dynastic II exists. The difficulties of providing a proper definition for a series of Early Dynastic II graves at al-Ubaid are emphasized by Gockel's quite different conclusions in his analysis of the same material (Gockel 1983:40–41).

Although many scholars have used paleography to suggest the date of a specific inscribed object, difficulties arise when inscriptions on clay tablets are compared with inscribed texts on stone. The Archaic Texts from Ur come mostly from Seal Impression Strata 4 and 5, which at present seems fairly well dated to the later part of Early Dynastic I. They do not help much, however, in dating accurately the few stone objects that should belong in this period. (For a discussion of the problems involved in early paleography see R. Biggs 1973.) Nevertheless the so-called *figure aux plumes* (here, fig. 5/9) and the Metropolitan Museum *kudurru* of Ushumgal must be early (Hansen 1975a:pls. 75, 74/b and c; Braun-Holzinger 1977:21–22) and must date to the Early Dynastic I period. The former is closer in certain stylistic and iconographic details to the preceding Jamdat Nasr period than is the *kudurru*. The latter has many of the characteristics used to define the art of Early Dynastic II in terms of the Diyala chronology. Also dating to Early Dynastic I on the basis of the inscription is the lion-headed bird from Khafajah found in Sin Temple VIII, the earliest of the Sin Temple levels assigned to Early Dynastic II in the Diyala system.

Uninscribed works of art, either incised or in relief, may also be attributed to Early Dynastic I on stylistic grounds, such as several votive plaques found in level VIII of the Inanna Temple at Nippur (Hansen 1971:54 [here, fig. 5/10]) as well as comparable pieces from Susa (Pelzel 1977).

Like relief, the rich tradition of sculpture in the round of the Uruk and Jamdat Nasr periods continues in Early Dynastic I. The female figurine from Sin Temple IV at Khafajah (Protoliterate d = ED I in the south, see above) is best seen as either a holdover from the previous Jamdat Nasr period or as a continuation of the Jamdat Nasr style in the Diyala during a period chronologically equivalent to Early Dynastic I in the south.

A prime example of Early Dynastic I sculpture is the limestone figure from the Shara Temple at Tell Agrab of a male resting on one knee and holding a large vessel by two hands on the top of his head (Hansen 1975b:pl. 36/a [here, fig. 5/11]). The form of the vessel is distinctive and is of a type characteristic of Early Dynastic I in the Diyala region (Delougaz 1952:pl. 48/c–d) and of level X of the Inanna Temple at Nippur. Porada has pointed to the early date of the sculpture (Porada, Hansen, and von Beckerath 1968:303) and commented on the implicit naturalism in the style of the body even though the head is executed in a more severe or geometric fashion. The continuation of the earlier naturalistic style of the Jamdat Nasr and Uruk periods into the Early Dynastic period was suggested long ago by Porada (1956). Stylistically comparable to the limestone figure is a standing, belted, nude figure in copper from Temple Oval I at Khafajah. Although the dating of these figurines is reasonably clear, that of their contexts is far from precise. Stylistically related to the preceding sculptures are two alabaster statues supposedly from Umma which represent bull-men (Hansen 1975b:pl. 16). Only the stone portion of the figures is preserved, but originally some features—the legs and horns, and the like—were made of different materials such as silver and lapis lazuli. This use of composite materials in sculpture was a favored one in the preceding period.

Probably to be included with these few statues in the round of the Early Dynastic I period is the famed hoard from the Square Temple of Tell Asmar, executed in the severe style (Frankfort 1939). The nude kneeling worshiper, although less finely executed than the Shara Temple figure, is certainly related in style. Hrouda has suggested that the findspot of the hoard may well predate the construction of Square Temple I and has pointed out that some of the figures carry a vessel resembling the solid-foot chalice of Early Dynastic I (1971:112). Of the extant relief sculpture of this period, the *kudurru* of Ushumgal would be the closest stylistically to some of the pieces from the hoard. There is little if anything from the level of the Square Temple assigned to the sculpture hoard which would necessitate a date in Early Dynastic II. Indeed, those levels in the Diyala sites which contained sculptures of the clearly definable styles, *Stilstufe* Ia–Ib of Braun-Holzinger (1977)—Square Temple I (Asmar), Sin VIII (Khafajah), Nintu V (Khafajah), the Shara Temple excluding the Latest Building (Agrab), and probably Temple Oval I (Khafajah)—should be dated late in Early Dynastic I. Braun-Holzinger considers her *Stilstufe* I to be the equivalent of the Mesalim style as defined by Strommenger (Braun-Holzinger 1977:15).

The style called "Mesalim" by many scholars is characterized by the earlier group of sealings of the "Fara Style." In light of the above discussion of the seals, the Mesalim style should be dated to the last phase of Early Dynastic I. King Mesalim, himself, and the inscribed

macehead from Tello bearing his name have led to some rather tortuous argumentation (e.g., Börker-Klähn 1980). The king is best dated in Early Dynastic IIIa, and the style of the macehead does not argue against such a date (Porada 1965:162; Pelzel 1977:9, n. 64; Braun-Holzinger 1977:14–15).

Early Dynastic I: The Diyala, the Himrin, and the Northern Regions

Although the pottery development in the lower Diyala and in the south shows a continuous evolution throughout the course of the Early Dynastic period, the pottery assigned to the first part of this long period is readily definable in the Diyala (Delougaz 1952:135–41) and is closely related to that from the south. Very characteristic of Early Dynastic I are the jars with a wing-tip handle and elaborate fenestrated stands. The hallmark of the period seems to be the solid-foot chalice which practically disappears before the end of Early Dynastic I. Although chalices are reported from the settlement, but not from the cemetery, of Ahmad al-Hattu (Sürenhagen 1983–84:194), this distinct type is not found in most of the Himrin sites which might mean that these date late in Early Dynastic I. Also distinctive for the Diyala region is the painted pottery known as Scarlet Ware, a phenomenon of Early Dynastic I which develops out of the painted wares of the preceding period. It is thought that a late phase of Scarlet Ware lasted into Early Dynastic II; however, this is based on only two examples, neither with a proper context (Delougaz 1952:69). Scarlet Ware appears in abundance in the Himrin, where it shows some regional variations (see, for example, Fujii 1981:figs. 13–18 [here, fig. 5/12]).

A style of cylinder seal carving aptly called "Brocade" by Frankfort seems to be dominant in the Diyala during Early Dynastic I (Frankfort 1955:21–24). Indeed, Frankfort saw it as prevalent during the period in all of southern Mesopotamia. Occasional examples of "Brocade" cylinders do appear in the south, as in level VIII of the Inanna temple at Nippur, but they are probably imports from more northern regions.

Gubba, Ahmad al-Hattu, Madhhur, Kheit Qasim, Abu Qassem, and Razuk all show an Early Dynastic I occupation. The sites may have grown up in Early Dynastic I due to their important geographical situation on the way to Iran. It is suggested that Razuk belongs at the end of the period, and there is some evidence that its occupation lasted into Early Dynastic II in terms of the Diyala chronology (Gibson 1981:159–60). Most remarkable are the round buildings excavated at Tell Gubba (Fujii 1979, 1981, 1984), Tell Razuk (Gibson 1981), and Tell Madhhur (Roaf 1982, 1984bc). The level VII structure at Tell Gubba was built during Protoliterate "d", of the Diyala chronology but lasted into Early Dynastic times. Only a portion of an extremely large rounded building of Early Dynastic I was excavated at Tell Madhhur, while a very well preserved circular structure with an open central court appeared at Tell Razuk. The building at Razuk is believed by the excavators to have been erected with rather large-scale simple vaulting. There is a long tradition of round buildings in the Halaf and Ubaid periods in northern Mesopotamia and Syria as well as in the later building of level XI-A at Tepe Gawra of the Middle Gawra period (Tobler 1950:pls. VI–VIII). Whether this northern round building tradition was in any way connected with the temple ovals of the lower Diyala and the south is as yet unclear. The Temple Oval at Khafajah and a briefly tested building, probably a temple, with a curving exterior wall in Area G at al-Hiba may extend back into the Early Dynastic I period.

In the north during this period a distinctive type of pottery, including plain, incised, and painted wares (here, fig. 5/13, 14) has been called "Ninevite 5" after the site where it was excavated in a semistratified context (Mallowan 1964). Sites at which this pottery has been found seem to be concentrated in the Mosul region and in the west, with only rare occurrences eastward toward Iran (al-Soof 1968:75–76). The incised variety has recently been reported from the Early Dynastic I levels 10 and 12 at Mari (Lebeau 1985:94, pls. XXIV/23, XXVII/10, XXVIII/12). Although at Qalinj Agha, Gawra, and Telul eth-Thalathat these wares are said to be found in association with Late Uruk pottery (al-Soof 1968:75), in the region of Eski Mosul at Tell Mohammed ʿArab where the painted wares are earlier than the incised, the Ninevite 5 levels follow what is called a Late Uruk deposit (Roaf 1983:71, 1984a:150–55, 1987). In northeastern Syria at Tell Brak, the Ninevite 5 material succeeds what has tentatively been called the "Latest Uruk" or Jamdat Nasr phase (J. Oates 1985a:178, see the Jamdat Nasr Period, above). At Tell Leilan in the Khabur region, a sequence of some twenty-four strata of Ninevite 5 wares comprises Period III (Weiss 1983, 1985a, 1985c; Schwartz 1985). Period III is considered to span the entire range of time when Ninevite 5 ware was produced. Weiss sees "Ninevite 5/Leilan III" lasting some eight hundred years, beginning with the end of the Late Uruk period (Weiss 1985c). Such a span of time seems excessive, especially since, on the basis of Tell Mohammed ʿArab, Roaf (1987) considers that the strata of Leilan Period III represent only a portion of the entire Ninevite 5 sequence, and that there is a gap between Leilan III and the earlier Leilan IV. Period IV has three strata containing beveled-rim bowls and is characterized as "a kind of settlement differentiation within the late Uruk period on the Habur plains" (Weiss 1983:44). The occurrence of beveled-rim bowls does not necessarily signify the Uruk period. In the south

they last, albeit in reduced numbers, throughout the Jamdat Nasr period and even into the transitional Early Dynastic I. There is no reason to assume that the production of beveled-rim bowls in the north ceases with the end of Late Uruk in the south.

The span of time represented by the Jamdat Nasr period of southern Mesopotamia must be accommodated in the north. Tell Brak now seems to show such a phase, and Period IV of Leilan may fall into a similar stage. Ninevite 5 would appear to begin after this, approximately with Early Dynastic I in the south, and last into Early Dynastic III. A group of cylinder seals with geometric designs from some Ninevite 5 sites, cited as partial evidence for indicating that Ninevite 5 begins in Jamdat Nasr, has been compared with the many seals from Sin IV at Khafajah dated to the Protoliterate "d" of the Diyala region (Schwartz 1985:58); however, Protoliterate "d" has now been shown to date to Early Dynastic I of the south.

The possible relationships between the northern and southern glyptic developments during this period have been outlined by Porada (1965:160). Of interest is the republication of a cylinder seal impression found at Nineveh which depicts a row of linked, stooping, skirted figures separated by oval-shaped filling motifs (Collon and Reade 1983:39–40; fig. 6 [here, fig. 4/7]). The style of the seal is certainly reminiscent of sealings from Ur and Susa.

Early Dynastic II

The chronological system developed for the Diyala region to trace archaeological development during the Early Dynastic period is primarily architectural. The tripartite division of the successive levels of the Abu Temple at Tell Asmar into the Archaic Shrine, the Square Temple, and the Single Shrine, all built of plano-convex bricks, played a considerable role in determining the chronological framework. In table 3 the levels of some of the major areas of excavations are given with the period sequence for the Diyala, that is, Protoliterate d, Early Dynastic I, Early Dynastic II, and Early Dynastic III indicated in the second column on the left.

Unlike the cylinder seals (Frankfort 1955), which are illuminatingly presented by findspot, the pottery (Delougaz 1952) is published by period so that it is often difficult to "see" the sequence as it develops. Furthermore, the lack of pottery in a given level is difficult to ascertain. The present writer, for example, can find relatively little pottery for the Shara Temple and only one curious vessel (Delougaz 1952:pl. 71/c) for the crucially important level VIII of the Sin Temple. The pottery of Early Dynastic II is a compilation of those pots from building levels assigned to Early Dynastic II on the basis of architectural considerations. When this material is plotted, it is clear that the pottery for the period consists of three kinds: (1) types that run the gamut from Early Dynastic I through or into Early Dynastic III; (2) types that begin in Early Dynastic I and continue into Early Dynastic II; and (3) types that begin in Early Dynastic II and last into Early Dynastic III. Only two types are considered as solely representative of Early Dynastic II, namely, a type of flask and a particular type of stand (Delougaz 1952:141–42). Perhaps with a large assemblage of pottery from other comparable sites in the Diyala region one could determine a phase that could be set off from a preceding Early Dynastic I and a succeeding Early Dynastic IIIa, yet when dealing with the south and the rest of Mesopotamia it seems next to impossible to define archaeologically such a period with any precision. Attempting to fill a time span represented by Early Dynastic II in the Diyala with a comparable period in the south by means of a few rather slim individual references to the Diyala seems doubtful and even more dubious as the geographical distance between the southern sites and the Diyala increases. A dotted line about 2600 in table 3 suggests where the break between Early Dynastic I and Early Dynastic IIIa in the south might occur with reference to the Diyala system. In regard to the development of sculpture in the round as defined by Braun-Holzinger (1977), this would place her *Stilstufe* I and the Mesalim style in the end of Early Dynastic I of the south, along with the relevant seals mentioned above. It was suggested some time ago that the Mesalim style of Moortgat corresponds only to the earlier part of the Diyala Early Dynastic II (Strommenger 1960:4–6). At present, the continued use of the designations Early Dynastic II and *Mesilim-Zeit* in the south can only refer to a specific phase in the art historical evolution of early Sumerian art which archaeologically is best accommodated in the end of Early Dynastic I.

In the south the Inanna Temple at Nippur furnishes an archaeological sequence covering the range from Early Dynastic I through Early Dynastic IIIa. In very preliminary reports (e.g., Hansen and Dales 1962:76–80) and in the chart in *Chronologies* (Porada 1965:178), level VIII of that temple is labeled as Early Dynastic II. A few comments are in order.

During the excavations of the Inanna Temple it became apparent that level IX should date to Early Dynastic I and that Fara-type texts found in level VII B should date that level to Early Dynastic IIIa. In attempting to fit this sequence into the system of the Diyala region, then prevalent for all of Mesopotamia, level VIII was assigned to the intervening period of Early Dynastic II, essentially by default.

The pottery from level VIII is not extensive, but besides the ubiquitous conical bowls a few rather distinctive types were found. Some parallels with pottery from the Diyala (Delougaz 1952) are as follows:

1. Spouted jars with ring bases and a plastic ridge at the juncture of the shoulder and body.
   D.525.362, Khafajah, Houses 3–6.
   D.515.362 with double plastic ridge, Khafajah, Houses 4, 6, and 11[?].
   C.515.362 As a general type, jars with a ring base, spout, and a plastic ridge begin in Early Dynastic I, Khafajah, Houses 8, 10, 11.
   C.525.362 b is closest in shape but without the plastic ridge, Khafajah, Houses 6 and 10.
2. Four elaborately decorated stands, three of which have triangular fenestrations.
   Three stands are of type C.3—.0—, Tell Asmar, Archaic Shrine IV. The type is also found in Inanna IX as well as in 6G54c, level II of Tell Abu Salabikh (Postgate 1977a:281; p. 290, fig. 5/11), a level that may well date to the end of Early Dynastic I. The fourth stand lacks the fenestration and has wavy lines of appliqué.
3. Bowl rim from a "fruit stand."
   C.365.810 c, Khafajah, Houses 2–3.
   C.365.810 d, Khafajah, Houses 2–3 and Oval II. A practically identical example comes from Inanna VII and from Tell Abu Salabikh (Postgate and Moorey 1976:148, fig. 7/5).
4. Shallow bowl with sharply inturned shoulder.
   B.601.530, Khafajah, Houses 3 and Oval I–II.

The late types, namely, the "fruit stand" bowl rim and the bowl with sharply inturned shoulder are both from fills outside the main temple walls and thus are not well stratified. If these types are accepted as dating criteria, then the pottery from Inanna level VIII, according to the Diyala system, would range from Early Dynastic I into Early Dynastic III.

Only one very fragmentary sealing with a partially preserved animal in an abstract style reminiscent of Early Dynastic I glyptic was found as well as five cylinder seals. One of these is clearly a Jamdat Nasr type; two are of the "Brocade Style"; and two show geometric patterns related to the "Brocade Style."

A single tablet of the Early Dynastic IIIa Fara type (see below) is recorded as found in level VIII (Buccellati and Biggs 1969:5). The locus IT397, however, is not secure and contained a mixture of materials from levels VII and VIII.

The finds of sculpture in the round are negligible and include a small head of a man with a peaked cap, and the lower part of the skirt and feet of a small votive figurine. Both are stylistically indistinct and afford no chronological indications. Several examples of votive plaques (Hansen 1963) and a fine example of a steatite or chlorite vessel with scorpion decoration appeared. It has been suggested that several of these plaques actually were created in the Early Dynastic I period (Hansen 1971:54).

A group of small votive vessels which formed part of the original temple inventory have either square or round holes in the top and are of an unknown purpose. A few have a border of inlay composed of tiny pieces of shell set in bitumen. They are like some of the objects used in level VII B of the Inanna Temple or found as grave goods in the Royal Cemetery at Ur. Two of the small limestone vessels have the sharp shoulder carination found on Early Dynastic I vessels of level X mentioned above.

In sum, the materials from level VIII of the Inanna Temple do not allow for the definition of a distinct period in the south of Mesopotamia that equates with the Early Dynastic II of the Diyala. At best, it is a transitional phase between Early Dynastic I and III of Nippur, just as level XII in the Inanna sequence is a transitional phase between Jamdat Nasr and Early Dynastic I and not a period in its own right. Reports of the excavations at Tell Abu Salabikh refer to graves and houses dated by the excavators to Early Dynastic II (for example: Martin, Moon, and Postgate 1985:2–17, particularly p. 17, n. 2; Postgate 1984:101–11). It is not evident as yet if a distinct period can be defined; however, a clearer picture may emerge as excavations continue and more material becomes available.

Early Dynastic IIIa: The South

With the first part of the Third Early Dynastic period we enter the historical age of Sumer, exemplified, for example, by a recently found account at al-Hiba enumerating the military triumphs of Urnanshe of Lagash (Crawford 1977:192–97; Cooper 1983:13, 46, 1986:24–25). Fundamental to the reconstruction of the Third Early Dynastic period is the place of the kings of the First Dynasty of Ur in their relation to the rulers of Lagash. Nissen has argued that Mesannepada of Ur and Eannatum of Lagash are in part contemporary, and that the Royal Cemetery of Ur dates between the Fara texts and Eannatum (Nissen 1966:135–41). In dealing with the glyptic, Boehmer (1969:271–78) has followed Nissen, and Cooper (1983:chart on p. 60) has advanced a similar construct. Such an assumption would place Urnanshe and Akurgal roughly contemporary with Meskalamdug and Akalamdug who are known archaeologically to have preceded Mesannepada of Ur (see below). Recently a new reading by Boese of the inscribed bead from the Early Dynastic treasure of Mari indicates that Meskalamdug is indeed the father of Mesannapada (Boese 1978; Cooper 1986:98). This important fact seems to have received general acceptance and fixes historically the so-called *Kalam* dynasty. (See table 4 for a schematic chart of Early Dynastic IIIa.)

Crucial to Early Dynastic IIIa are texts from the site of Fara of a type also found at other sites. The use of the

term *Fara* has led to some confusion since the name has been employed in a least four different ways. It refers to (1) the site of ancient Shuruppak and the material excavated therein; (2) a style of glyptic usually the equivalent of Early Dynastic II or the Mesalim period; (3) the stage in the development of writing synonymous with the Fara tablets; (4) the Fara period which in the German system comprises the later part of Early Dynastic II of the Diyala and Early Dynastic IIIa. It is obvious that the term should be abandoned, yet it is difficult to do so since the name is so deeply embedded in the literature. Hence, for clarity it is absolutely essential to specify the sense in which one uses it.

The texts from Fara itself are essentially unstratified, and many come from house XIII f–i along with a great quantity of sealings. For the most part, their original dating to the period following Moortgat's Mesalim phase is still maintained (Falkenstein 1936:22), and they have been linked to a stage in the development of glyptic termed the *Imdugud-Sukurru-Gruppe* in Moortgat's system of classification. This name, Imdugud-Sukurru, has been read by some in recent years as *Anzu-[d]Sud*. Although none of the tablets from Fara bore impressions of cylinder seals, the name of the priest Imdugud-Sukurru was found on an impression as well as in a text, but not both on the same document. The assumption is that they are the same person.

At present it is difficult to ascertain with precision the span of time in absolute terms covered by this phase in the development of writing. Falkenstein (1936:22) considered that the texts dated to about one hundred years before Urnanshe, while Hallo, on the basis of onomastica, dates them into the time of Urnanshe and perhaps even slightly later (Hallo 1973:235). Another group of texts comparable both in size and content to the tablets from Fara have been found at Tell Abu Salabikh, a site some 25 km to the northwest of Nippur. These have been published by R. Biggs who suggests that they "antedate the reign of Ur-Nanse by one or two generations" (1974:26). Nevertheless, Biggs implies, although he does not as yet explicitly state, that it is possible to discern an earlier and a later stage of development (see Gibson 1972a:79). At this point one does not known whether such a developmental sequence has true chronological significance. It seems best to assume at present that the stage in the development of writing represented by the texts of Fara, Tell Abu Salabikh, Kish, and Ur extends well into the time of Urnanshe and thus covers the major part of Early Dynastic IIIa. In any case, it seems clear that the glyptic phase associated with the name of Imdugud-Sukurru is not the sole style represented in this period (see Braun-Holzinger 1977:13, n. 34.).

In western Syria at Tell Mardikh, ancient Ebla, a royal archive was discovered in level IIB1 of palace G. The texts are related to those of Tell Abu Salabikh and even share common geographical and word lists with them (Biggs 1980). If, as is claimed (Matthiae 1978, 1982b:111–12, 1982a), this palace was destroyed early in the Akkadian period by Sargon or perhaps Naram-Sin himself, there seems to be a chronological problem. Assuming that there is a time lag between the production of the Tell Abu Salabikh texts in Sumer and those in the city-state of Ebla in Syria at the end of the Early Dynastic period, a difference of over one hundred years might seem excessive. The Ebla archive represents a collection of texts, including perhaps some three generations of rulers according to Archi (1985:140). Michalowski offers a different opinion and considers that the archive consists of texts of "no more than one generation" (1985:296). Indeed, a reevaluation of the Mardikh evidence may well indicate that the palace was destroyed before the Akkadian period; however, the find with the tablets of an alabaster jar lid inscribed with the name of Pepy I may argue, at present, for an Akkadian destruction.

Unfortunately the ancient name of Tell Abu Salabikh is not yet certain, although Biggs and Postgate have suggested ancient Eresh (Postgate 1982:54). For the Early Dynastic IIIa period in southern Mesopotamia, the site might well serve almost as a paradigm for the archaeology of the period. As stated above, the texts come from Area E, a complex of buildings that are probably part of a large temple precinct (see the plan of the "Burned building" and the "Southern Unit" in Biggs 1974:4, fig. 1; and Postgate 1982:53, fig. 40). The curious long corridor leading from the entrance to the central court of the "Southern Unit" is not unique but is paralleled in house XIII f–i of Fara and also in house "D" in the Temple Oval at Khafajah (Heinrich and Andrae 1931:14, fig. 12; Delougaz 1940:pl. 4.).

In preliminary reports Postgate has already published a considerable portion of the corpus of the Salabikh ceramics for Early Dynastic IIIa (see the references cited under Postgate) as well as some from Early Dynastic IIIb when the site appears to have been less extensively inhabited. He has pointed to connections up the Euphrates to Mari and farther west for Early Dynastic IIIa during a time when Tell Abu Salabikh might well have been under the political domination of Kish (Postgate 1982:50–51). For example, from graves 100 and 176 came ovoid jars with small ring bases and orange-painted horizontal stripes on their shoulders which have western connections as far as Tell Khuera in northern Syria (Postgate 1977a:295; Postgate and Moon 1982:131).

Important is burial 162 found in room 59. The shaft had been dug after the erection of the building in phase IB, and the grave contained the skeletons of at least five equids (Postgate and Moon 1982:135; Postgate 1984:95–97), indicating that this practice of burying animals was

much more widespread than suggested by the famous graves of Ur and Kish. Other recently found equid burials of Early Dynastic IIIb and Akkadian date are now known from the Himrin in the upper Diyala and from al-Hiba in the south (for equids and equid burials see Postgate 1986, and Zarins 1986).

The date of the cart or chariot burials of Kish has always been problematic. They were found in the Y sounding at a depth of 1–2.5 m below the Flood Stratum (Moorey 1979a:104). Thus, other than considering the comparative material for the objects from the graves themselves, the basic questions concern (1) the date of the surrounding context in which they were found, (2) whether or not they were sunk from above or below the higher Flood Stratum, (3) the date of the Flood Stratum, and (4) the date of the Red Stratum and the intermediate layer between it and the Flood Stratum. Although it is difficult to be precise or conclusive on any of these matters, a few observations are in order. (1) The Y Cemetery and the building strata are here considered as Early Dynastic I, a date that for all intents and purposes has now been proved by Algaze (1984). (2) Both Moorey (1979a:106) and Gibson (1972a:84, 1980b:616) think that the burials were dug from above Flood Stratum. No evidence argues against this most reasonable assumption. (3) Materials are lacking for the date of the Flood Stratum itself, but Moorey and Gibson claim to have seen Early Dynastic II and Early Dynastic III sherds in the level during a visit to the site. To the present writer this observation seems overly astute. The crux of the matter lies in the sealings and tablets said to have been found immediately below the Flood Stratum in YW, which according to Moorey (1979a:99, 115) would provide a *terminus post quem* for the level. Having noted the recording difficulties, Algaze dismisses this material and argues for intrusions from above (1984:143 and n. 35, 146, n. 46). (4) The graves were dug before the time of the Red Stratum, the debris of which must have been deposited before or at the beginning of Early Dynastic IIIb, for private graves of the A Cemetery type were dug into it. The stratum contained tablets said to be of the Fara type, hence, Early Dynastic IIIa (Moorey 1979a:97). Since none of this is overwhelmingly clear, Algaze's conclusion that the "lack of adequate records as to the stratigraphic position of the Chariot Burials at Kish precludes a definitive solution to the question of their date" (1984:154) seems most reasonable. The present writer would opt for a date in the first half of the Early Dynastic IIIa period, earlier than the graves of the Royal Cemetery at Ur.

Certainly postdating the time of the chariot burials at Kish are the graves from mound A where some 150 were excavated from the so-called A Cemetery (Mackay 1925). Discussions concerning the chronology of this cemetery are extensive, with dates ranging from late Early Dynastic II into Akkadian. That it was in use in both Early Dynastic IIIb and Akkadian times seems to be without question (see the discussions of Moorey 1979a:61–75; Gibson 1972a:78–80; Moon 1982:44–46); however, the date of the earliest graves has proven more problematic. Whelan's (1978) early date for some of the pottery has been contested by Moon (1982:45–46). Fundamental to any discussion of the cemetery is the fact that it was dug into the destroyed or abandoned remains of the palace of mound A and the fact that a tablet of the Fara type was found beneath a bench in room 31 of the palace. No matter how one attempts to dispose of the importance of this tablet, it is clear that the palace lasted into the early part of Early Dynastic IIIa, so the A Cemetery at its earliest could only have begun in the latter part of Early Dynastic IIIa, the period to which most of the seals from the cemetery may be dated (Porada 1965:164n; Moorey 1979a:66).

The most impressive of all the monumental buildings of the Early Dynastic period is the palace of mound A with its grand pillared "loggia." Although the plan of the building as presented is undoubtedly overly simplified and regularized, the scale and arrangement of the parts show a sense of design (for a full description see Margueron 1982:35–70; figs. 12–34). A distinctive feature of the north wing is a long surrounding corridor separating the exterior wall from the inner complex of chambers. Although the function of such a corridor is not readily understood, its purpose may well have been defensive. As stated above, the date of the palace during this phase is Early Dynastic IIIa as established by the Fara-type tablet found in one of the rooms. Porada (1965:161n) would date the building on the basis of some shell inlays found within the palace to Early Dynastic II. This proposal is essentially followed by Dolce (1978) who concludes from a study of the inlays that the palace was founded in Early Dynastic II or late Early Dynastic I, but she admits to the building's continued existence. The palace may well have had earlier phases to which the inlays originally belonged, but only reexcavation of the entire complex including earlier levels would help to solve many of the problems (Gibson 1980b:617).

Besides Palace A at Kish, the large, so-called Plano-Convex Building is also dated to Early Dynastic IIIa (Moorey 1979a:41–44), and like the palace, it has a long narrow surrounding corridor. This architectural feature relates the buildings of Kish to the two "palaces" of Eridu (Safar, Mustafa, and Lloyd 1981:273–87) which may well belong to the same period even though nothing that provides a secure dating was found in them. The function of the Eridu buildings is not yet ascertainable, but they were perhaps temple dependencies like the complex of Abu Salabikh, the *giparu*, for example, rather than the actual seat of a *lugal*. The A Palace of Kish may well

have been a residence of the ruler, as were the Early Dynastic palaces of Mari which lay below the monumental one of Zimri-lim of the Old Babylonian period (Margueron 1982:86–106; figs. 46–56). It is difficult to date precisely the Early Dynastic remains at Mari in terms of the chronology of southern Mesopotamia, but an early phase of the Early Dynastic palace sequence, *palais présargonique* 2, must have existed during at least part of Early Dynastic IIIa, for a bead inscribed with the name of Mesannepada of Ur was found in the latest Early Dynastic construction, that of the *palais présargonique* 1 (Parrot 1968:44, 53–59; pls. XXI–XXII [here, fig. 5/15]).

The archaeological remains at Fara during Early Dynastic IIIa have been well studied by Martin (1972, 1975). The Imdugud-Sukkuru phase of the glyptic development, so well represented at the site of Fara itself, is probably confined to the earlier part of Early Dynastic IIIa and is only one of a series of styles recognized in such other cities and areas as Ur and the Diyala region (here, fig. 4/8). Boehmer has divided the seals for Early Dynastic IIIa into an ED IIIa[1] and an ED IIIa[2] (1969; see also Porada 1980b:8). The second stage of this development is probably contemporary with the later phase of the Fara writing pointed to by Biggs, and which at Ur is represented by the Royal Cemetery and the sealings of Meskalamdug and Akalamdug, contemporary with Urnanshe and Akurgal of Lagash.

Probably the most important find of the entire Early Dynastic period is the Royal Cemetery of Ur (Woolley 1934). One of the arguments proposed for the dating of a large part of the cemetery to the Early Dynastic IIIa period is that stylistically the seals of Meskalamdug and Akalamdug are clearly earlier than the seals of Mesannepada and his wife Ninbanda, who date to the beginning of Early Dynastic IIIb (Porada 1965:162–63; Boehmer 1969). The graves of the cemetery have been analyzed and put in order by Nissen (1966), with further commentaries provided by Gockel (1982) and Pollock (1985). Many of the objects found in the Royal Cemetery can be connected with artifacts found in regions far outside of Mesopotamia proper. Various stones, jewelry types, weapons, and so forth have been discussed (Porada 1965:164), but the chronological implications of these relationships can be stated only in very broad terms. One class of artifact, the carved chlorite vessels executed in a style and displaying an iconography not purely Sumerian, are found in the Royal Cemetery as well as in other areas that extend from Syria to Pakistan (Kohl 1975). Based on the archaeological context of a few Mesopotamian examples, these have been dated to the mid-third millennium (Kohl 1982:24), but, because of stylistic considerations, some should date as early as Early Dynastic I, as, for example, the vessel from the Sin Temple at Khafajah (Hansen 1975a:185–86; pl. 77).

One of the most magnificent of all the chlorite vessels is a painted fragmentary vase or stand with a depiction in relief of a panther and a toothed serpent that came from level VII B of the Inanna Temple at Nippur (Hansen 1975a:184–85; pl. 76/a [here, fig. 5/16]). Although this vessel may well be earlier than its findspot, the temple of level VII B contained a series of deposits rich in temple furnishings, some of which are comparable to finds from the Royal Cemetery at Ur (see for example, Hansen 1975a:187–88; pl. 83). Much of the sculpture from this temple belongs to the stylistic grouping called *Stilstufe* II (ED IIIa) of Braun-Holzinger (1977:50). The date of level VII B of the Inanna temple is arrived at from a group of tablets found in a street to the west in a stratum securely linked to level VII B of the temple proper. Biggs (pers. comm.) has indicated that these tablets belong to the more developed phase of writing of the Fara-type texts, which here is considered as lasting to the time of Urnanshe. Thus, level VII B must be contemporary at least in part with the Royal Cemetery of Ur.

At Tello, ancient Girsu, several important inscribed stone objects of Urnanshe, including the "family reliefs," were recovered in Tell "K" (Parrot 1948:55–63). How these objects relate to the remains of what must have been part of a large complex built after the so-called *construction inférieure* remains unclear.

Early Dynastic IIIb: The South

In absolute terms the period of Early Dynastic IIIb must comprise some 150 years before Sargon of Akkad, whose dates are ca. 2334–2279 B.C. There is no clearly defined archaeological break between this period and the previous one, but historically Early Dynastic IIIb is taken here to begin with Mesannepada and A'annepada of the First Dynasty of Ur and with Eannatum of Lagash. Although the names of many of the rulers of the dynasties of Ur, Uruk, Umma, and Lagash are known, up to the present time the entire period is not well represented archaeologically.

At Ur, in the area of and below the ziggurat of the Third Dynasty of Ur, Woolley's "Archaic II" would in part correspond to the time of the First Dynasty (Woolley 1955:1ff.). In the soundings, Seal Impression Strata 1 and 2 which overlay the debris into which the Royal Cemetery was dug (Moorey 1979b:117–18) must belong to the First Dynasty since sealings of Mesannepada (here, fig. 4/9) and his wife Ninbanda were found in these strata. Stylistically they date after the seals and sealings of the Royal Cemetery (Porada 1965:162; Boehmer 1969:271ff.). Furthermore, the style of the sealing of Mesannepada is closely related to that of the sealing of Eannatum of Lagash (Amiet 1980:206 [here, fig. 4/10]).

Although the temple of Inanna at Nippur was for the

most part rebuilt and expanded in design, there is no evidence for a lapse of time between levels VII B and VII A. The accumulation of level VII A may well have begun in Early Dynastic IIIa and continued into Early Dynastic IIIb, but the rare finds from the level VII A temple allow for little comparison with materials from other sites. The temple must have continued to the end of Early Dynastic IIIb, but only scrappy walls remain, for the entire area was razed during the preparations for a subsequent building by Shulgi of the Third Dynasty of Ur.

The A Cemetery at Kish, which may have begun in Early Dynastic IIIa, continued in use throughout Early Dynastic IIIb and lasted into the Akkadian period (Moorey 1979a:61–75; Gibson 1982:532). The distribution of two of the characteristic pottery types, stemmed dishes and jars with upright handles, has been studied by Moon, who notes that the latter form tends to be concentrated north of Nippur (Moon 1982).

Extensive remains from the first half of Early Dynastic IIIb have been uncovered at al-Hiba, the site of the ancient capital city of Lagash. For this period, excavations have concentrated on the Ibgal of Inanna (Area A), the Bagara of Ningirsu (Area B), and a large administrative complex (Area C). For the first time in Early Dynastic Sumerian archaeology, specific building levels may be linked chronologically to individually known historical rulers: Area A, level I = Enannatum I; Area B, level II = Eannatum; Area C, level IB = Eannatum and Enannatum I (Hansen 1983). The present lack of archaeological building remains for the later part of Early Dynastic IIIb at Lagash (Enannatum II–Uruʿinimgina) may be due to the fact that after Eannatum II and an Elamite invasion, the state of Lagash was administered from Girsu, the modern site of Tello (Bauer 1983:420). Unfortunately, at Tello there is nothing architectural that can be associated with the late rulers. Due to a current archaeological reevaluation of the Akkadian period, this portion of Early Dynastic IIIb, once called Proto-Imperial by the excavators of the Diyala, may need extensive revision.

The glyptic of Lagash during the time of Eannatum, Enannatum, and perhaps Entemena displays a wide variety of styles and iconographic elements (Hansen 1987), suggesting that the work of individual seal cutters may have been influenced by several external sources. A distinct royal style, exemplified by the sealing of Eannatum, is comparable to the royal style of the First Dynasty of Ur and to the sealing of Mesannapada. Toward the end of Early Dynastic IIIb at Lagash, in sealings from Tello associated with Lugalanda, his wife Barnamtara, and Uruʿinimgina, the composition of the frieze tends to become tighter and employs more marked vertical accents (Amiet 1980:pl. 83, figs. 1098, 1100–1103).

The pottery of the temples and of the administrative building is similar to some from the A Cemetery of Kish. The Early Dynastic IIIb pottery types are varied and include a few rare painted sherds of Susa IV A style, with very specific parallels to painted wares from Godin III 5/6 in Iran (Henrickson 1987).

A singular find at al-Hiba was a grave located to the south of the administrative complex of Area C, which contained the skeleton of a man buried with his mount (Hansen 1973:70; fig. 26). This might well have taken place after the destruction of Lagash by Lugalzagesi of Umma, who was probably responsible for the extensive burning evidenced in both Areas C and B. As noted above, the elaborate equid burials in southern Mesopotamia of Early Dynastic IIIa at Ur, Kish, Abu Salabikh, and at Susa in Khuzestan are now supplemented by other burials from the Himrin region of the upper Diyala at sites such as Tell Razuk (Gibson 1981:73, 1982:532) and Tell Madhhur (Roaf 1982:45–46), where they are dated by the excavators to the Akkadian period.

The Ibgal of Inanna built by Enannatum at Lagash was in the form of a temple oval with antecedents at least as early as Urnanshe. Probably contemporary with Enannatum's temple was the richly decorated temple oval at al-Ubaid (Hall and Woolley 1927; Delougaz 1938). Although a stone foundation tablet bearing the name of Aʿannepada of Ur, not found in situ, may have come originally from the temple, it may just as well have belonged to an earlier, as yet unexcavated level.

At Tell al-Wilayah another monumental building was partially excavated (Madhlum 1960; S. A. Rashid 1963). A long narrow corridor suggests that the excavated part is related to the type of "palace" known from earlier Kish and Eridu. The fact that the building was constructed of plano-convex bricks and contained material of both the Early Dynastic and the Akkadian periods dates the level to the end of Early Dynastic IIIb, with occupation lasting into Akkadian times.

Early Dynastic IIIa and IIIb: The Diyala and the North

For the upper and lower Diyala region and the north, the periods equivalent to Early Dynastic IIIa and IIIb of the south, comprising some 250 years, are discussed together.

As indicated in table 3, Early Dynastic IIIa in the lower Diyala includes at Khafajah levels IX and X of the Sin Temple, Houses 5–3, Temple Oval II, and Nintu VI–VII, and at Tell Asmar, Square Temple III. From the sculpture, Braun-Holzinger would date Nintu VII and Oval II into the equivalent of Early Dynastic IIIb (1977:63; table 2). For Early Dynastic IIIb and what was termed Proto-Imperial by the excavators, the archaeological remains are meager, but in a preliminary study of the relevant material, Gibson (1982) has made important observations

and suggestions. Based on a reexamination of the tablets, sealings, and pottery, he reassigns Temple Oval III as well as Houses 1 of Khafajah and Houses V*b* and V*a* of Tell Asmar to the Early Akkadian period (Sargon to Naram-Sin), while he relegates Single Shrine II, III, and IV of the Abu Temple at Tell Asmar to a Late Akkadian period. Such considerations argue for an elimination of the Proto-Imperial period (from Entemena to Sargon) of the Diyala excavators and for a very much shortened ED IIIb period, if indeed, the latter exists at all. Gibson points out that at Tell Abu Salabikh and in the Inanna Temple at Nippur, Early Dynastic IIIb is scarcely attested. While this seems to be true, its absence at these sites cannot be justifiably used in support of extending the argument to the south, for at Salabikh there was extensive erosion of the late remains, and at Nippur late rebuildings extensively destroyed levels VI and V. The fact that at al-Hiba (Lagash) Early Dynastic IIIb after Entemena so far is absent is perhaps more telling, but only future excavation can assist in solving these problems. Somehow, the period from Enannatum II through Uru'inimgina must be accounted for archaeologically beyond the seal impressions of Lugalanda and Uru'inimgina, though the time involved is probably less than one hundred years. If the historical situation were unknown, one would probably be unaware of any difficulty.

The monumental plano-convex brick buildings at Tell Asmar known as the Earlier Northern Palace and the Northern Palace were originally dated to Early Dynastic IIIb and the Proto-Imperial period. However, Gibson (1982) has now justifiably assigned them to the Early and Late Akkadian periods respectively.

In the Himrin basin of the upper Diyala region, excavated sites have produced material dated to Early Dynastic III as, for example, some graves from Tell Madhhur (Roaf 1982:45, 1984b:133–35) and some pottery from the settlement of Tell Abqa' (Trümpelmann 1982), but thus far such remains seem sporadic. The glyptic style for Early Dynastic III is represented by a group of fine cylinders from Tell Sleimah, which for the most part are executed in a style identical to that of Sumer (al-Gailani Werr 1982). The fact that level IV of Sleimah produced seals of Early Dynastic III style as well as others of the classic Akkadian style remains to be explained.

In the north at Assur, level G of the Ishtar Temple corresponds to Early Dynastic IIIb. The votive statuettes from here show a close resemblance to contemporary works from the south (Braun-Holzinger 1977:52, 61), but with a marked dependence on the sculptural style of the Mari school. In general, the art of the Mari school in both sculpture in the round and in other media such as carved shell inlays shows a marked refinement frequently verging on a mannerism, in comparison with the works of art from the south. A counterpart is found in Ebla in the beautifully carved stone wigs apparently dating to the end of the Early Dynastic III period (Matthiae 1980). Undoubtedly the arts of Mari and farther west formed a major component of the developed Akkadian style of southern Mesopotamia.

The archaeological phase in the north called "Ninevite 5" seems to end during the time of Early Dynastic III. At Tell Taya in northwestern Iraq, the pottery of level 9 (Early Dynastic III) continues certain Ninevite 5 traditions but nonetheless is distinctly different from it (Reade 1982:74). Ninevite 5 ware is also absent in the Early Dynastic III level of Tell Brak (J. Oates 1985a:175), a level destroyed perhaps by Sargon before Naram-Sin's palace was constructed (D. Oates 1985a:160; J. Oates 1985b:143).

The Period of Akkad

The period of Akkad was named by modern scholars after the capital of the Semitic ruler, Sargon. Akkad had been a new city, probably fairly close to the ancient town of Kish. The title "king of Kish" assumed by Sargon after his defeat of Ur-Zababa of Kish may have indicated his claim to domination of the north as had been made by several Early Dynastic rulers before him (Edzard 1980:608). The dates of Sargon and his successors given by Brinkman (in Oppenheim 1977:335–36) are as follows: Sargon, 2334–2279 B.C., which may include a period during which he was a dependent prince before his victory over Lugalzagesi; Rimush, 2278–2270 B.C.; Manishtushu, 2269–2255 B.C.; Naram-Sin, 2254–2218 B.C.; Shar-kali-sharri, 2217–2193 B.C.; Igigi, Nanijum, Imi, Elulu, 2192–2190 B.C.; Dudu, 2189–2169 B.C.; Shu-Turul, 2168–2154 B.C.

Little is known about the sequence of events that led to the emergence of Sargon as a ruler of all of Mesopotamia and, subsequently, as the overlord of the first documented empire in western Asia.

Brinkman pointed out (in Oppenheim 1977:346, n.1) that Hallo had suggested a shortening to about five or four decades of the period in which the Guti, who put an end to the Akkad dynasty, actually ruled over the north (Hallo 1971:713–14). Boese has taken up Hallo's suggestions and tried to support them with textual and archaeological references (Boese 1983:33–35). In the present state of uncertainty, however, the tentative dates suggested by Brinkman are retained here.

At the major sites of Mesopotamia, like Ur, Uruk-Warka, Nippur, and Mari, inscriptional evidence documents the rule of the Akkad dynasty, but few archaeological remains of the period have been preserved. Near Kish the sites of Umm al-Jir and Ishan Mizyad have Akkadian levels, as does the recently investigated site of Umm al-

Hafriyat near Nippur. The publication of the latter two should enhance the meager evidence currently available for the south (Gibson 1972b, 1978; Postgate and Roaf 1981:184). The possible identification of Ishan Mizyad with the city of Akkad had been suggested by Weiss (1975:442–51). However, at present most of the archaeological evidence comes from the north; only al-Wilayah lies in the south. There a palace was excavated (Madhlum 1960) that was compared to the palaces at Kish and Eridu not only on the basis of plano-convex bricks, which may be less decisive, but also on the basis of a surrounding uninterrupted corridor (S. A. Rashid 1963:85). Despite the pottery and cylinder seals of Akkadian style found in the palace, it may have been built in the preceding period since it also fails to show the regularity and nearly symmetrical arrangement of rectangular rooms characteristic of Akkadian palace plans such as that of Naram-Sin at Brak (Mallowan 1947:pl. LX) or the reconstructed plan of the so-called Old Palace at Assur (Preusser 1955:3), of which only foundation trenches were completed. Moreover, the use of rooms arranged around a courtyard increased in this period. A large house at Assur (Preusser 1954:pl. 2), perhaps a private dwelling, gives the same impression and probably belonged to this period, although the excavator thought a date in Ur III to be a possibility. A room, interpreted as a bath, witnesses the elaborate sanitary installations introduced at this period. These are especially striking in the Northern Palace of Tell Asmar-Eshnunna (Delougaz, Hill, and Lloyd 1967:187–89), a building called Pre-Sargonid and Proto-Imperial in the publications of the excavations but assigned by Gibson to the Akkad period (Gibson 1982:533–35).

Sargonic tablets found in looters' holes in the area around the main court of the "palace" provide information on a large establishment, with hundreds of women employed in making textiles. The sanitary installations, which had been introduced in the northern part of the "palace" along the eastern row of rooms, may have served the needs of such an establishment. Gibson pointed out that his dating of the "palace" in the Akkad period makes it seem possible that the tablets were connected with the activities in that building (Gibson 1982:534). The assumed organization in the "palace" of the space and appointments for industrial purposes would conform with organizational measures undertaken by Sargon and his successors according to their inscriptions.

The interpretation by Heinrich (1984:32–35) of part of the "Akkadian Foundations" at Khafajah as a large and presumably luxurious house adds another spacious building (which could have only been erected by persons of wealth and power), to the ground plans of the period.

In the north, distinctive architectural features of the Akkad period are seen in the buildings of level VIII at Tell Taya, where the foundations and lower walls in this period and in the preceding late Early Dynastic level IX were built of stone and are therefore in a remarkable state of visible preservation. On the central mound are a gate-house and two monumental buildings, one of which is probably a shrine, which faced each other across a large open space in the middle (Reade 1982:73). The mound is surrounded by a fortified circuit wall which was probably built in level IX. It rested on bedrock and had its lower 3 m constructed of crude limestone masonry. The stones were largely unworked, apparently as they came from the quarry. On top of the stones a layer of large sherds was spread, and the wall then continued upward in mud-brick. The average dimension of the bricks was 32 × 36 × 10 cm. The shrine, built in the same technique as the circuit wall, had less crude stonework to a height of 1.20 m, with at least 3 m of mud-brick above (Reade 1968:241–42).

Reade compared Tell Taya to Tell Jidle in the Balih Valley, where a large mound was also ringed with a wall partly built of stone (Reade 1968:243). He also compared a hoard of jewelery, found in a pot buried in the center of a room in the house west of the shrine, to hoards found at Brak and Jidle, suggesting that they were all buried simultaneously (Reade 1968:248).

In the Himrin basin Akkadian remains have been found at several sites, of which the most important for the period under consideration are Tell Atiqeh and Tell Sleima, formerly written Tell Suleimah. At Tell Atiqeh, a large well-preserved house or administrative building was excavated (Gibson 1979:467; Postgate and Watson 179:169). Tell Sleima yielded residential buildings with characteristic pottery and metalwork of great interest (Rmaidh 1984).

Old Akkadian tablets found at the site may indicate that the town should be identified with Awal (F. Rashid 1984:55–56; Gibson 1980a:178–81).

At Tell Madhhur and Tell Razuk, rich graves with equid burials date to either late Early Dynastic III or early Akkadian times (Killick and Roaf 1979:540; Gibson 1980a:25).

Brak, which D. Oates called "essentially a Mesopotamian site" (1982a:196), contains the chronologically most significant building of the Akkad period, the palace of Naram-Sin, built with bricks stamped with that king's name. The regularity of the building's courts and long storage rooms shows a characteristic trait of Akkadian architecture which also distinguishes another Akkadian building at Brak. It was discovered in the northeast corner of the mound in area FS. Its south facade was ornamented with deep rectangular niches, suggesting that it was a public, possibly a religious, building. Inside the

building was a rectangular court (D. Oates 1987:178, fig. 2). "It represents the latest of three distinct levels of Akkadian occupation of which the earliest is represented by a substantial building with finely plastered walls, doorways with reveals and benches around the sides of the room" (D. Oates 1987:177–78). It was thought to belong to the earliest Akkadian occupation under Naram-Sin, and the destruction of the building may have occurred at the end of that king's reign (ibid.).

D. Oates identified two destruction levels at Brak "both earlier than the construction of the palace and separated by a relatively short interval" (D. Oates 1985a:160). He suggested that the first destruction was due either to Sargon or to Lugalzagesi, the second conceivably to Naram-Sin, before the erection of his storage "palace." A more extensive treatment of the problem concerning the date of the destructions and their likely connection with destructions at Mari and Ebla was given by J. Oates (1985b).

With the drawings of Late Early Dynastic III pottery, stoneware, and stone vessels from Brak, J. Oates included some "Agade" types (J. Oates 1982:fig. 1/4, 11–13; fig. 6/91, 93). A "rectangular pottery vessel with appliqué snakes" was one of two such vessels found on an Agade floor in area ST (D. Oates 1982a:195, 199; pl. XII/c).

For the pottery of the Akkad period in general, Adams listed the following items as most characteristic: ribbed ware, either on the shoulders of large storage jars (here, fig. 5/17) or on large ledge-rim bowls (here, fig. 5/18), which apparently began to be made at the end of the Early Dynastic III period. Large spouted bowls were also distinctive (here, fig. 5/19); the spout had a beaded rim and was set immediately below the down-flaring rim of the bowl. Broad incised meanders on large bowl and jar sherds were also noted (Adams 1965: p. 128: 4B.d). Gibson added that at Akkadian Nippur and Umm al-Hafriyat, large jars with a single ridge at the shoulder were the predominant jar type (Gibson 1982:537). At Tell Taya, herringbone patterns below the rim were frequent as were incised circles and crescents, and rows of small dots produced with a comblike instrument (Reade 1968:pl. LXXXIV/9, 12, 13).

Gibson pointed out several pottery types that appear to mark the transition from Early Dynastic III to Akkadian: fruit stands (also called stemmed dishes); upright handled (or goddess-handled) jars; vessels with knoblike feet and/or vertically pierced lugs, along with jars that have applied knobs on the body; and large bowls (Gibson 1982:536–37).

Abundance of metal in the Akkad period, level VIII, at Tell Taya indicates both prosperity and connections with the southeast. Reade pointed to the relation of bronzes in the vicinity of the shrine at Taya to those of an Akkad hoard at Brak: a sickle, a dagger, a chisel, and a typical spearhead (Mallowan 1947:pl. XXXI/1, 2, 9, 11). These metal types are said to have continued from late Early Dynastic ones to judge by their resemblance to examples from the Royal Cemetery at Ur. Shaft-hole adzes, corresponding to examples from Ur (Woolley 1934:pl. 229, type 3 [here,fig. 5/20]) were found at Gawra (Speiser 1935:pl. XLIX/5 [here, fig. 5/21]) and Billa (Speiser 1931:21). The miniature pickax found at Gawra (Speiser 1935:pl. XLIX/3), however, was in its proper context in the Akkadian stratum VI for a pickax from Ur (Woolley 1934:pl. 224/U.9680 [here, fig. 5/22]) came from grave 689, together with cylinder seals of mature Akkad style. A shaft-hole axhead with lateral ribs on the socket, found in a "Late Agade context" at Brak (D. Oates 1985a:165), determines an early date for this type of socket.

Reade did not mention pins among the finds from Taya, although many toggle pins with simple head and upper shank flattened for piercing were found at Gawra in stratum VI, Chagar Bazar III, Brak Sargonid (Speiser 1935:pl. L/8; Mallowan 1937:fig. 12/5, 1947:pl. XXXI/3, 4) and are related to pins in the Royal Cemetery of Ur (Woolley 1934:pl. 231, type 3b [here, fig. 5/23]) all mentioned by Perkins (1954:49). She also cited a hairpin with spatulate head of which rare examples were found at Ur, including one of gold (Woolley 1934:pl. 159/a) and which is represented in Brak Sargonid, Tell Aswad (Mallowan 1947:pl. LIII/32 [here, fig. 5/24]), in Billa 5 (Speiser 1932–33:268), and in forked form in Gawra VI (Speiser 1935:pl. L/4).

One may finally quote Perkins (1954:49) for the relation of the lunate gold earrings of Nuzi and Brak Sargonid (Starr 1937–39:pl. 55/I; Mallowan 1947:pl. XXXVI, *passim*) to those from the Royal Cemetery (Woolley 1934:pl. 219, types 2–7 [here, fig. 5/25]). (For a detailed discussion of the Sargonid lunate earrings, see Maxwell-Hyslop 1971:22–24, *passim*.)

Chipped flint and occasionally obsidian arrowheads of lanceolate shape were in use in the Akkad to the Ur III periods in Gawra VI (Speiser 1935:84), at Brak (Mallowan 1947:180–82; pl. XXXVII), in the Diyala, and at Susa. At Tell Taya, Reade was able to identify an area on the outskirts of the late Early Dynastic to Early Akkad period town with an industry of flint knapping (Reade 1973:161).

The cylinder seals of the fully developed Akkad style are easily recognized by the carefully modeled bodies of men and animals as well as by the rich repertory of mythological figures, gods, hybrids, animals, and human worshipers. A chronological differentiation of the Akkad cylinders was proposed by R. M. Boehmer (1965) on the

basis of the development of the friezes depicting contesting heroes and animals, inherited from the Early Dynastic period and gradually broken up into two pairs of contestants.

The first group that showed the new style was Boehmer's group Ib, dated in the time of Sargon's daughter Enheduanna on the basis of seal inscriptions of her officials. Boehmer's group II is dated in the time of Rimush and Manishtusu, group III in that of Naram-Sin to the end of the dynasty. The fluid limits of these stylistic groups were pointed out in a review by Nagel and Strommenger (1968). They stated their own views of the general chronology of the glyptic development which are summarized here. An early phase Ib, which is already clearly within the framework of Akkadian style, was followed by group Ic, in which the style is fully developed and extends without major changes to groups II and III. In group III, works of extraordinary balance and artistic quality were produced, which transcended the achievements of groups I and II.

The linear style of the Akkad period, which prevailed in the Diyala region and other peripheral areas with a limited repertory of themes, was explored by M. Laird (1985). Some groups, which had been thought to belong to the post-Akkad period, were shown to be regionally, not chronologically, different.

The monumental art of the period was assembled by Pierre Amiet (1976) around the long-known dated monuments discovered at Susa and preserved in the Louvre. An important addition with significant chronological implications was the discovery at Bassetki, near Dohak in northeast Iraq, of the lower part of a cast copper, crouching nude man clasping the base of a standard or gatepost, and set on a circular podium bearing an inscription of Naram-Sin (al-Fouadi 1976; Moorey 1985:30).

Nude female figures of ivory, wood, or clay emerge as a criterion of the period on the basis of excavations at Umm al-Hafriyat (Gibson 1983). Gibson compared the naturalistically modeled clay figurines, all of which have their hair gathered in a bun at the back, to the ivory figurine from Tell al-Wilaya (Madhlum 1960:pl. 7 [here, fig. 26]) and to the ivory figurines from the floor of level G at Assur (Andrae 1922:pl. 57/44–47). There are also stylistically comparable clay figurines from Assur (Andrae 1922: pls. 54/u, 55/y–aa).

An ivory statuette of a nude female found in an Akkad period building at Brak has her right arm hanging down the side and the left laid across her waist, an Egyptian posture noted by D. Oates (1982a:135, 198: pl. XI). Most of the other figures cited have both elbows bent and hands clasped in front. The ivory figurine from the Treasure of Mari (Moortgat and Moortgat-Correns 1974:157) is the best executed and preserved of this type of object. Since it is part of an Early Dynastic assemblage, it supports the contention that the Akkad style was stimulated by the stylistic developments in Syria.

The Post-Akkadian Period and the Third Dynasty of Ur

The Post-Akkadian Period

The period between the end of the Akkad Dynasty, ca. 2150 B.C., and the beginning of the reign of Ur-Nammu, set at present in 2112 B.C., the first ruler of the Third Dynasty of Ur, has been called the Post-Akkadian period by historians of ancient art, especially as a term for the sculptures of Gudea of Lagash and for cylinder seals of the period. However, recent research has shown that Gudea was a contemporary of Ur-Nammu's and may have been an ally in Ur-Nammu's successful struggle against the Elamites to wrest Babylonia from their control (Steinkeller 1988:52–53). Steinkeller added that "one could imagine that Gudea took part in that conflict as an ally of Ur-Nammu, in their common quest to reopen the trade routes, 'from the lower to the upper sea'" (Steinkeller 1988:53).

One of the possibilities considered by Steinkeller of placing Gudea chronologically in relation to Ur-Nammu is that the early years of Gudea fell into pre-Ur III times. Gudea was followed by his son, Ur-Ningirsu, and his grandson, Pirigme. While the chronological positions of the two other rulers of Lagash, Ur-Gar and Nammaḫani, are uncertain, it seems most likely that Lagash lost its independence to Ur-Nammu under Nammaḫani (Steinkeller 1988:52). The code of Ur-Nammu, in which Nammaḫani was mentioned (and which was almost certainly authored by Shulgi, Ur-Nammu's son; Steinkeller 1988: n. 2), was written in Sumerian, like all other inscriptions of the period. Such texts are called Neo-Sumerian to distinguish them from those of the Early Dynastic age.

Archaeologically, little can be said about the period after the Akkad Dynasty in the north. The major structures, such as the Northern Palace at Tell Asmar-Eshnunna and the shrine and large building at Tell Taya, were destroyed, no doubt by the Guti tribes, on whom the writers of the Third Dynasty heaped invectives.

Of the architecture of Gudea at Girsu, there remains only a small part of a building that was not connected with the rest of the "palace" drawn by de Sarzec, who did not recognize that he had three different building periods, which he combined in one and ascribed to Gudea. The small remains of a beautifully niched wall built of Gudea's bricks with asphalt and clay was marked by Koldewey in his reproduction of the plan of "Telloh" (Koldewey 1925:287, Abb. 242). The account of the excavations at Lagash (al-Hiba) summarizes the limited information available for the architecture of Gudea and the Third Dynasty of Ur (Hansen 1983). However, as-

ects of the decoration of Gudea's architecture can be pictured from the beautiful poetic account of the construction of the Eninnu of Ningirsu, the major deity of agash, which was recorded on the cylinders buried in e foundations of the temple at Girsu.

Gudea mentioned copper and exotic woods, which he btained from regions that participated in the trade of the ersian Gulf. The same trade probably provided diorite om Magan, and lapis lazuli, carnelian, and gold from Meluhha. From east Syria Gudea received copper, from e Middle Euphrates area he received stones and wooden ams for rafts, and from north Syria he obtained cedars (Falkenstein 1966:46–54).

The magnificent sculptures of Gudea and some of the embers of his family, as well as his stelae, convey the h level of art and culture at his court. Whether that rt created a fashion in its time or merely continued common in the Akkad Dynasty cannot be determined resent evidence.

ork on the sequence of the *shakkanakku*, rulers of , by J.-M. Durand (1985), has revealed that the e of a ruler called Ishtup-ilum by Parrot (1959:2–5, I–III) and Ishdub-El by Durand (1985:156–57) is mporary with the reign of Gudea, indicating the exe of one or more interdependent sculptural styles n the areas of greater Mesopotamia.

e seal style that appears to have developed at the of Gudea is very delicately executed and maintains rtite scheme of composition in contests of heroes nimals (Porada 1968:142). A tripartite scheme is n a late Akkad-style sealing that shows the small of a nude bearded hero who grasps the tails of two nt bulls which flank a tree in a second tripartite The inscription on the seal names Shu-Turul, the ng of the Akkad Dynasty (Frankfort 1955:pl. 65/ Therefore, the tripartite scheme is an indication of n the end of the Akkad period, but it is more comseen in the time of Gudea and the Third Dynasty A large number of such cylinders in the British n come from Ur (Collon 1982:nos. 254–75).

cond, less common theme, often with sharply forms, is derived from the linear style of the north kkad age. Frequently, a standing or enthroned igure without divine attributes, though probably ss, is the principal figure of the scene. Again, xamples in the British Museum come from Ur 1982:nos. 286, 290–99).

pottery, Akkad period types continue with only dification into the Ur III period.

The Third Dynasty of Ur

Dynasty of Ur was formed of the following -Nammu, 2112–2095 B.C.; his son, Shulgi, 2094–2047 B.C.; Shulgi's son, Amar-Suen, who was formerly called Bur-Sin or Amar-Sin and ruled in 2046–2038 B.C.; Amar-Suen's brother, Shu-Sin, who was formerly called Gimil-Sin, and who ruled in 2037–2029 B.C.; and Shu-Sin's son, Ibbi-Sin, 2028–2004 B.C. It was suggested that Ur-Nammu, who had been military governor of Ur for the king of Uruk, Utuhegal, was the latter's son (Sollberger 1954–55:12, n. 8).

Ur-Nammu erected temple towers, called ziggurats, in the major towns of the south: Ur, Nippur, Eridu, and Uruk, which provided the most striking architectural monuments. A new unit in the plan of a site was the sacred precinct surrounding a large open space with a temple or ziggurat in the center (D. Oates, cited in Hansen, Mellink, and Porada 1973:142). At Ur the *giparu*, the official dwelling of the *entu* priestess, was built and rebuilt during the periods with which the present section is concerned. The earliest remains are those of the Early Dynastic period. That building was used until the Ur III period when Ur-Nammu seems to have rebuilt the structure, which, subsequently, Shulgi elaborated and Amar-Suen repaired. The building was destroyed by the Elamites with the rest of Ur in 2004 B.C. and restored by the *entu* priestess, daughter of Ishme-Dagan, king of Isin (1953–1935 B.C.) in the Isin-Larsa period (Weadock 1975:105–8).

Royal apartments at Ur with the niched decoration of the walls, a characteristic of sacred architecture, probably served for a limited religious function, to be performed by the king (Heinrich 1984:43–44).

A provincial palace that contained a temple for the ruling king of the Third Dynasty was excavated at Tell Asmar-Eshnunna (Frankfort, Lloyd, and Jacobsen 1940).

The most common plan for private houses was an arrangement of rooms around a central court, usually within a square or rectangular outer wall. Lateral extensions of such houses to form a block in which the main room would have been flanked by smaller side rooms—Heinrich's *Mittelsaalhaus*—appeared at Nippur in the Scribal Quarter in level VIII (McCown, Haines, and Hansen 1967:pl. 55/B).

In the north, level F at Assur has fragmentary remains of houses with crude stone foundations (Andrae 1922:22 and 95), which may be related to those of Tell Taya. Level E, with an impressive stairway and gate towers at the entrance to the Ishtar Temple, was assigned to the Third Dynasty of Ur on the basis of an inscription of a vassal of king Amar-Suen. This was built into the pavement of a sideroom of the Ishtar Temple of the Middle Assyrian king Tukulti-Ninurta I (1243–1207 B.C.). The sealings found in level E, in an ash layer in the court before the temple, include a variety of styles from Late Akkad to one inscribed for a *shakkanakku* of Mari (Andrae

2:103, fig. 76/b). The seal probably dates from the of Sumuabum of Babylon (1894–1881 B.C.) be- e on the sealing of that ruler two male worshipers ar before a deity (Legrain 1925:pl. XX, no. 326), a f for which we have no parallels from the time of the d Dynasty of Ur. The subsequent level D of the Ishtar ple was thought to be earlier than Shamshi-Adad be- e its remains were more modest than those ascribed nat king at Assur. However, this evidence is tenuous nd the temple of Assur E, together with the related ple of stratum V at Gawra, may have been built after time of the Third Dynasty of Ur, in the Isin-Larsa od, a period of provincial wealth and expansion in northern Mesopotamia.

Pottery from Ur III to the end of the Old Babylonian period shows a large number of types, which increase and decrease within the period without sharply determined breaks at the beginning or the end. This is amply illustrated by a study of the pottery from Ur III to the end of the Kassite period (Ayoub 1982). Ayoub noted 32 types can be traced from before Ur III down to the end of Old Babylonian period, 10 of which continue into site times (Ayoub 1982:35–36); of the 52 he identi- as first appearing in the Ur III period, 35 continue the Old Babylonian period, 17 of which last into site times (ibid., pp. 36–37). Within each type he rves small changes and developments over time, rep- nting a gradual evolution (Ayoub 1982:45–63). A lar situation was found by Woolley at Ur (Woolley 4:82).

Criteria for a more restricted dating are provided by cylinder seals of the Ur III period. The most charac- tic are those showing a scene of presentation to an roned king (Franke 1977). Presentations to an en- ned deity carved in the Ur III period are recognizable he inscription, the frequent occurrences of goddesses ecipients of worship (Buchanan 1981:214–25, nos. –93), and, in the best-made cylinders, the delicate iled and still naturalistic style of engraving as in the nder of Hašhamer, servant of Ur-Nammu (Collon 2:pl. LII/469 [here, fig. 4/11]; Wiseman 1959:40). In nes of conflict between heroes and a lion or a lion fin, the tripartite composition prevails (Collon 2:pl. XXXV/246–pl. XXXVI/269; pl. XXXVII, *sim*).

Monumental sculpture of the time of the Third Dy- y of Ur, hitherto limited to the badly battered torso of lgi (Orthmann 1975:pl. 63/a, b) and to the foundation rines of Ur-Nammu and his successors, has been en- ed by the statues of two rulers of Mari: Parrot's Idi- n (Parrot 1959:16–22; pls. IX–XI), the Iddin-El of and (1985:156–57), who is now known to have been ntemporary of King Shulgi; and Puzur-Eshtar (Parrot 9:16, fig. 12), who was a contemporary of King Amar-Suen (2046–2038 B.C.). Both Iddin-El and Puzur-Eshtar had been dated in the Isin-Larsa period by Frankfort (1954:58), who has been followed in this view by most scholars in the field. "The elegance and fineness of the figurine" of Iddin-El and the "broad but sensitive treatment of the bare parts of the body with an extraordinary elaboration of all those details of dress and hair which are capable of ornamental treatment" (Frankfort 1954:58) in the figure of Puzur-Eshtar, must now be ascribed to the Third Dynasty of Ur.

A criterion of Ur III date is a type of clay figurine (Dales 1960:112) that is modeled in one piece with the chair on which it sits. Relations of these chair figurines with those of Assur were pointed out by Dales (1960:215–18). The Diyala figurines assigned stratigraphically to Ur III are pleasingly modeled with large lunate earrings and extended arms (Frankfort, Lloyd, and Jacobsen 1940:221, fig. 109/c [here, fig. 5/27]). The influence of the central administration on the outlying areas of the Ur III empire can be observed in the finds of the period made in the Himrin. Especially the cylinder seals, of which a fair number was found at the site of Sleima (al-Gailani Werr 1982:82–84, nos. 45–50), may have been owned by officials working for the southern administration. It is noteworthy, however, that the majority of the seals show the crude cutting of provincial work, and the seal that has the finest engraving, which could have been made in the south, has the inscription rubbed off to eliminate the name of the original owner.

There is no indication concerning the findspot of these seals. However, copper ceremonial axes were found in graves (Rmaidh 1984:57). One of these, a crescentic, fenestrated ax with opposed animals on the socket, reproduced in a photograph (Rmaidh 1984:49, fig. 8/1 [Arabic section]), had not been found previously in a datable context (Maxwell-Hyslop 1949:119–20, type B3; pl. XXVI/7 [here, fig. 5/28]). These axes had been assigned to the period between the Akkad and Old Babylonian periods (Calmeyer 1969:45 s.v., Abb. 46). It is therefore important to learn the precise context of the axe from Sleima. Another fine axe has a lion-head finial on the lower edge of the socket, facing downward in the direction of the handle. Still another has curving projections above and below the socket (Rmaidh 1984:54, fig. 18/2 [here, fig. 5/29]). This last-mentioned type was assigned by Calmeyer to the Third Dynasty of Ur (Calmeyer 1969:42). Perhaps such axes found in graves had belonged to military officers stationed at Sleima in the Himrin which belonged to the periphery of the Ur III empire.

The Isin-Larsa and Old Babylonian Periods

The centrally administered empire of Ur III was followed by a number of active urban centers, each of which dom-

inated its surrounding area. They had far-flung trade relations with other centers and occasionally attempted to extend boundaries by warfare. The literacy of a relatively large number of "scribes," for which a good equivalent is our word *secretary*, which applies to as high an official as the secretary of the treasury and to the lowliest typists, resulted in a mass of records from which the political, economic, and, in some cases, personal history of the leaders of these centers can be reconstructed.

The kings of the First Dynasty of Isin, whose authority extended over Ur, Eridu, and Uruk, were the successors to the kings of Ur in their tenets of administration and general policies. With the capture of Ur by Gungunum of Larsa, 1932–1906 B.C., Isin lost its preeminence in the south. Although Ur came again briefly under the suzerainty of Isin, Larsa remained the greater power in the south until the advent of Hammurabi of Babylon, who aimed for, and achieved, the domination of all of Babylonia with his victory over Rim-Sin of Larsa in about 1783 and Mari in 1759 B.C..

The period demonstrates the fusion, which Oppenheim saw as part of the Mesopotamian pattern: "a fusion was achieved between the native legacy with its inherent traditionalism and the political drive of the sheikhs experienced in trade, warfare, and plundering, who were open to innovations and experiments but sufficiently awed by the cultural supremacy of the old cities to assume the politically advantageous role of guardians of Mesopotamian traditions" (Oppenheim 1967:32).

Most of the dynasties of Mesopotamia in the Isin-Larsa and Old Babylonian periods had descended from Amorite tribal chiefs, as could be determined, for example, from the names of the predecessors of Sumuabum, 1894–1881 B.C., the first king of the First Dynasty of Babylon (Finkelstein 1966; Lambert 1968).

The archaeological evidence is rather limited for this period of intellectual activity and material wealth, which was brought about by trade and industry. Much of what is known about the layout of a town and its buildings in the Isin-Larsa period is due to the excavations by Woolley and Mallowan (Woolley and Mallowan 1976). An Old Babylonian town with a remarkably regular plan was discovered at the site of Haradum on the Euphrates, south of Mari, and dated between Samsuiluna and Ammiṣaduqa (Joannes 1985; Kepinski and Lecomte 1985). Current excavations at Isin have shown that the site was inhabited in the Akkad period and may go back to Ubaid times (Hrouda 1977). So far, the most important pre-Kassite discoveries in the southern part of the eastern sector of Isin have yielded Old Babylonian houses and a street. One of the houses, in which tablets were prepared and written and scribes were instructed, was either part of a public archive or the office of a scribe who also lived there (Hrouda 1977, 1981:49). In the campaigns of spring 1983 and autumn 1984, a public building was excavated in the southeast area, which, according to the report by Killick and Black (1985:221), resembles the Southern Building of Tell Asmar, which the excavator ascribed to Ipiq-Adad II (Frankfort 1933:30), whom Hallo dated ca. 1860 (Hallo 1971:99). In the northeast area of Isin a brick-built tomb and private houses, which contained a number of tablets of extraordinary interest from the early second millennium B.C., were found. Northeast of the temple of Gula was a large enclosure wall with some clay cones of Ishme-Dagan which mentioned work on the "Great Wall."

At Larsa, excavations have centered on the sanctuary of the sun god Shamash, the Ebabbar, now thought to have originally been two sanctuaries, the ziggurat and the Ebabbar as such, a temple situated on a tell, today hidden by the Neo-Babylonian constructions and sand dunes (Calvet 1984:20). Hammurabi is thought to have rebuilt these structures into a single great complex, shortly after his conquest of Larsa (Huot 1985b:311–12). In the walls of the large courts I and III, Hammurabi's architects created a magnificent decoration of engaged spiral columns comparable to those of Tell al-Rimah (D. Oates 1967:pl. XXXII–XXXIII) and Leilan (Weiss 1985c:8).

Due to the high water table, excavations at Babylon are prevented from descending much deeper than the level of the Neo-Babylonian period. However, there are numerous inscriptions and texts, which Renger used to give some idea of the building activities of the rulers of the First Dynasty of Babylon (Renger 1979).

At Nippur, private houses of the Isin-Larsa period were smaller and more cheaply built than the earlier ones that had stood in the same places in the time of the Third Dynasty of Ur; however, there had been a marked change of property lines after the fall of the Ur Dynasty. Once the houses of the Isin-Larsa period had been built, there was no radical alteration in the character of the area or in the general level of prosperity (McCown, Haines, and Hansen 1967:145). Chapels for the worship of the family god or the personal god of the householder appear to have been planned for most houses of the period at Nippur (McCown, Haines, and Hansen 1967:146).

The site of Tell ed-Der, close to Sippar, yielded houses like those of Nippur and of other sites of the period (Gasche, in De Meyer 1978:78–85). Other investigations at Tell ed-Der, including Abu Habbah, ancient Sippar, have focused on the dating of various canal systems and flood deposits. The result is that there was a major flood phase in this area during the second millennium B.C. and that the high embankments surrounding Tell ed-Der and Sippar, formerly thought to have been defensive walls, were dikes, originally built in late Old Babylonian times to protect each city from floods (De Meyer 1978:1–35, 1980:37–52).

Returning to the architecture of the period, elaborate ples were still built, though on a smaller scale than in Ur III period. The most innovative plan appeared to that of Tell al-Rimah, ancient Karana, north of the proximate border of the Jezireh, a steppe area in north- st Iraq, and south of Tell Afar (D. Oates 1965:66). ere a small ziggurat was combined with a temple (D. tes 1967:pl. XXX, 1968a:pl. XXVIII). The temple the southern plan with a broad cella and resembles Ebabbar of Larsa in the way the ziggurat was sur- nded by a court (Huot 1983:293, fig. 1). Another link tween Tell al-Rimah and Larsa concerns the use in the ple facade of engaged columns built of bricks in such nner as to suggest spiral torsion of the shaft. At Larsa feature was dated to the time of Hammurabi (Calvet al. 1976:24; pl. III/3, 4). At Tell al-Rimah the decora- n of the shafts included patterns suggestive of palm nks, and similarly decorated columns were found at ilan (Weiss 1985b:289, pl. 1) and at Ur (Woolley 39:42–45). At Tell al-Rimah the decoration of the col- ns was not used in the royal palace, a necessary cere- nial structure in this period reflecting the great repre- ntational and administrative needs of the rulers of the iod. This is most evident in the palace of Mari, famous ady in its own time (Kupper 1973:13), and also that Sinkashid at Uruk (Lenzen, in *UVB* 19:pl. 49; Hein- h 1984:63–66).

The importance of the palace at Karana, aside from its chitectural interest, lies in its yield of tablets of which e earliest were dated to the first part of the reign of amshi-Adad (Dalley, Hawkins, and Walker 1976:202) the principal archive, that of Iltani, wife of the ruler Karana, dated in and shortly after the last years of mmurabi of Babylon, 1792–1750 B.C. (Dalley, Haw- s, and Walker 1976:32). The archive contains letters m Zimrilim of Mari and mentions Ibalpiel of Esh- na among the rulers involved in the complicated po- ical situation after the death of Shamshi-Adad.

Under the influence of Shamshi-Adad, the dating at l Rimah, as at Mari, was by *limu* or year eponyms. ese officials and their dates have been most recently cussed by Veenhof (1985), who suggested several re- ed dates for the events at Mari and a date of 1760 for e latest group of texts of Tell al-Rimah.

Changes have also occurred in the dates for Zimrilim Mari, whose reign was probably much shorter than the ty-five years assigned to him previously (Charpin and and 1985:337).

At all the sites mentioned, a great deal of pottery was covered. One type characteristic of central and south- Mesopotamia during the Isin-Larsa period has simple ear designs in black on a background of the natural y color, crosshatchings, diagonals, mostly between broad, horizontal bands, are a characteristic decoration of small bottles, bowls and storage vessels. Ayoub illustrates numerous examples under his types 25 and 63 (Ayoub 1982:95, 112–13 [here, fig. 5/30, 31]).

In the north the so-called Khabur ware was widely distributed. It is characterized by rounded forms (here, fig. 5/32), especially jars with narrow or wide necks and high bowls with strongly marked rims. The color is buff and the decoration consists of simple bands or zones of simple designs, such as linear triangles, crosshatched triangles, or other plain geometric forms. The distribution and chronology of this pottery were the subject of several studies; the most extensive is Hamlin's (1974; but for a recent discussion, see Stein 1984).

Toward the end of the Larsa rule, small vessels of grayware with incised, pricked, and impressed decoration and remains of white incrustation and red paint were found at several sites (here, fig. 5/33), especially at Telloh, Tell Asmar, and Susa. These were set by Börker-Klähn between the time of Urningizida and Ibiq-Adad II of Eshnunna, or about 1840–1770 B.C. (Börker-Klähn 1970).

Most characteristic among the remains of the Isin-Larsa period are the terra-cotta plaques with figures in relief (here, fig. 5/34), which provide some insight into the popular iconography of the period (Moorey 1975:79). They are generally found in private houses. Since the appearance of the books by Opificius (1961) and Barrelet (1968), groups from several sites have been published: Nippur (McCown, Haines, and Hansen 1967:pls. 125ff.), Larsa (Calvet et al. 1976:20–21, pl. IV/1–5), Der (De Meyer, Gasche, and Paepe 1971:pls. 27–29, *passim;* De Meyer 1978:pls. 26–28, 1984:pl. 11/6–7, pl. 12/11–13, pl. 13/1–2, 10–12, pl. 16/3, pl. 17/4, pl. 21/11), Kish (Moorey 1975:79–99), and Isin (Hrouda 1977:47–51, pls. 23–24).

The cylinder seals of the officials at the courts of the Isin and Larsa periods continued the delicate, carefully modeled seal style of Ur III with the favored motif of an enthroned figure which may represent a king or a deity. From about the time of Abishare of Larsa (1905–1895 B.C.) onward, figures of deities, largely derived from Akkadian prototypes, appear in multifigured scenes on the seals (al-Gailani Werr 1980). A most refined style prevailed at Sippar; other local styles existed which are still to be fully defined (al-Gailani Werr 1988). Some simplification of the elaborate style began in the time of Hammurabi and continued in that of Samsuiluna. The use of a mechanical drill increased until the end of the First Dynasty of Babylon. A thorough study of the 656 Old Babylonian cylinder seals in the British Museum (Collon 1986) shows that there was a somewhat impoverished linear style with a tendency to show minor rather than major gods. The type of cylinder was surely cheaper and

more easily available than the better products. It appeared in seal impressions from the time of Hammurabi (Figulla 1967:pl. 25).

A predominantly linear, angular style that used many Babylonian figures, called Late Old Assyrian, was found to the north of Babylonia, at Assur (Moortgat 1940:pl. 61/505, 516) and to the northwest at Kültepe-Kanish in level Ib, dated from the time of Shamshi-Adad (1809–1776 B.C.) to that of Samsuiluna (1749–1712 B.C.) (Özgüç 1968:pl. XV/B; pl. XVII/A; pl. XIX/A). Characteristics of the style are frequent use of hatching by thin short lines, especially on the brim of the hats of the worshipers; garments with shoulder straps, which converge at the waist, and are worn by gods and worshipers; and stress on the eye by a diminutive, usually horizontal line.

Several of the Himrin sites had their best period in the time of the Isin-Larsa dynasties, though the area was under the rule of the kings of Eshnunna who held the key to the major land routes connecting Sumer, Akkad, and Elam with the north. This advantage was to pass to Hammurabi after his conquest of the region (Postgate 1979).

Tell Sleima is said to have continued in this period, Tell Yelki to have had a prominent building of the Isin-Larsa period, and Tell Genj, carefully described and well illustrated (Wilson Briggs, Heim, and Meighan 1984), also seems to have belonged mainly to that period. The most interesting find at Tell Genj is the impression of a cylindrical object, ca. 6 cm high on a potsherd (here, fig. 4/12). Hitherto, the practice of decorating pots with cylindrical objects had been known in Syria, but not in Mesopotamia.

The superior craftsmanship that existed in the major centers of the early second millennium B.C. in Mesopotamia and elsewhere in the Near East is exemplified by the treasure discovered at Larsa in a room of the Ebabbar temple of Shamash (Huot et al. 1978). Contained in a jar was the raw material, the finished products, and the weights and tools of a goldsmith. The tools consisted of a pair of tweezers, a little anvil, and a lode stone (Arnaud, Calvet, and Huot 1979:7, figs. 8–9, 12). In another, related deposit was a cylinder seal that bore the name Ilshu-ibnishu, taken to be that of the goldsmith, and a tablet providing a date in the time of Samsuiluna (Arnaud, Calvet, and Huot 1979:51–53).

The treasure doubtless belonged to the temple, not to a wealthy individual. A tendency to curtail the activities of the rich Babylonian merchants had already made itself felt in the time of Rimsin of Larsa (Leemans 1950:113–19), and continued under the Babylonian rulers so that "no more great and wealthy businessmen are found during the reigns of Hammurabi and his successors" (Leemans 1950:121). Together with the impoverishment of the south caused by salinization of the soil (Jacobsen 1957:139), this policy of the rulers had probably strangled the importation of luxury goods by a relatively large number of persons, and, as a result, Babylonian influence abroad had ceased long before the destructive raid of Murshilish of Hatti and before the resulting conflagration sealed the Old Babylonian level of the capital about 1595 B.C. (Koldewey 1925:234).

Postscript

The writing and subsequent updating of this section of *Chronologies* extended from 1975 to the end of the academic year 1985/6. After the delivery of the manuscript to the editor, no more additions and changes were made. The present version of this section is therefore already out of date in view of the rapid changes in the chronological estimations of the prehistory and early history of Mesopotamia, caused in part by the new insights acquired as a result of the rescue excavations in the reservoir areas such as the Hamrin or the Saddam Dam Basin.

Readers are therefore urgently advised to add to the information contained in this section of COWA, summaries of current work such as those provided in *Iraq* XLIX (1987):231–251 to XLIX (1989), in press.

Publications of major significance for the prehistoric periods are *Chronologies du Proche Orient; Chronologies in the Near East: Relative chronologies and absolute chronology 16,000–4,000 B.P.* C.N.R.S. International Symposium, Lyon (France) BAR International Series 379 (1987). Especially J. Oates, "Ubaid Chronology," 473–82, with a chart on p. 479, also *Colloques internationaux, Préhistoire de la Mésopotamie*, CNRS, Paris, 1986; J. Oates, "The Choga Mami Transitional": 163–80, and "Le Choga Mami Transitional et l'Obeid 1," 199–206.

For publications concerning the Early Dynastic and later periods: H. P. Martin, *Fara: A Reconstruction of the Ancient City of Shuruppak*. Birmingham, UK, 1988. E. Porada, "Review of Martin, 'Fara' and N. Karg, 'Untersuchungen zur älteren frühdynastischen Glyptik Babyloniens.'" in *American Journal of Archaeology* 94 (forthcoming 1990). D. and J. Oates, "Brak in the Third Millennium B.C.: The Akkadian Empire" *Archéologia* (in press).

Mesopotamia

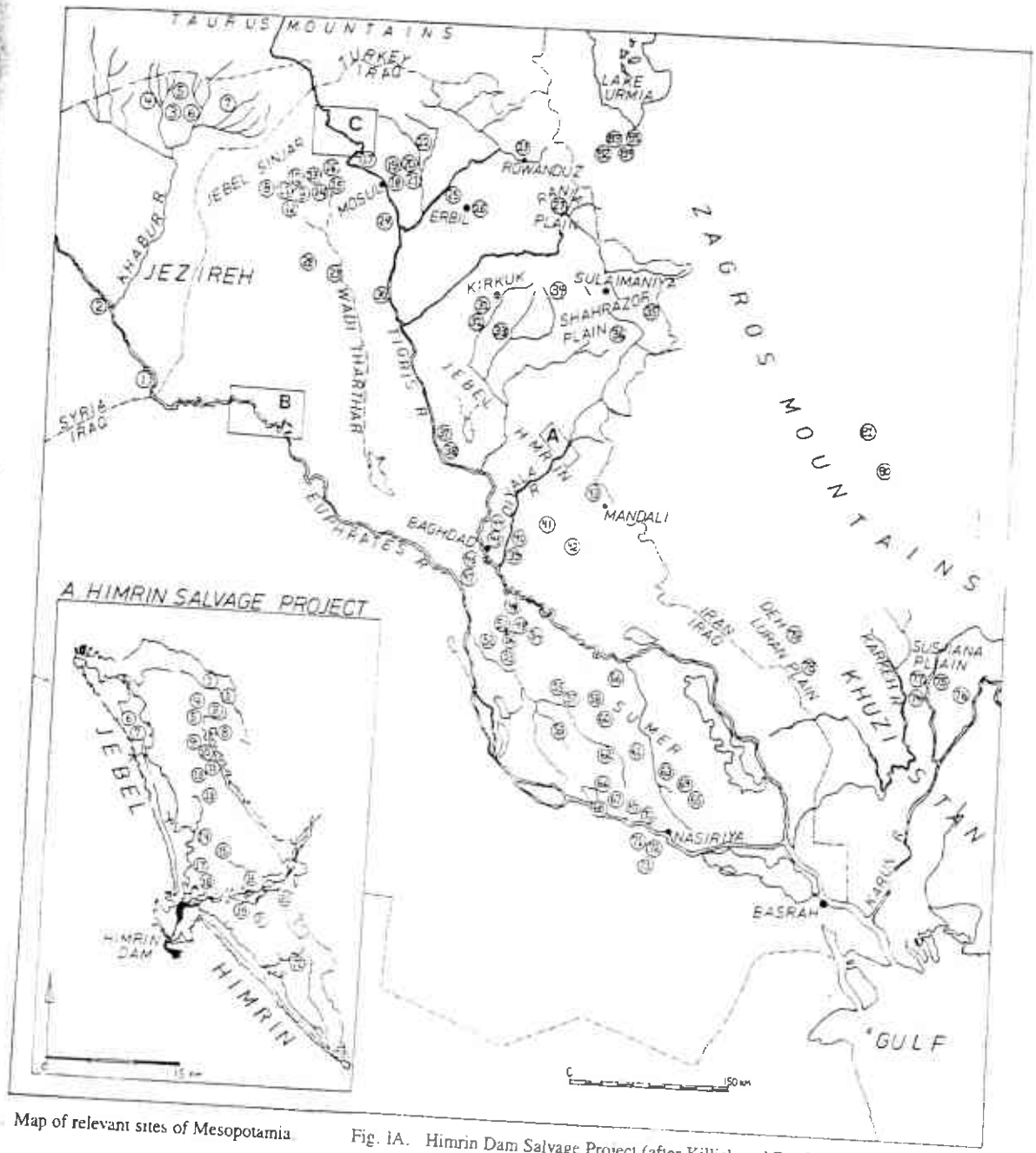

Fig. 1 Map of relevant sites of Mesopotamia

Fig. 1A. Himrin Dam Salvage Project (after Killick and Roaf 1983:205)

Key

- • Modern town or city
- ② Ancient site
- —·—·— Modern political boundary
- [A] Area of Salvage Excavations
- [—A] Himrin Salvage Project
- [—B] Haditha Dam Salvage Project (see map in Killick and Roaf 1983: 205)
- [—C] Eski Mosul Dam Salvage Project (see map in Killick and Roaf 1983: 205)

Note: All names on the map are modern except Sumer.

List of Sites

In this list, ancient names are in upper case and modern names are in upper and lower case.

Syria

1. MARI
2. Bouqras
3. Chagar Bazar
4. Halaf
5. Tell Aqab
6. Tell Brak
7. Tell Leilan

Iraq

8. Grai Resh
9. Yarim Tepe (I,II,III)
10. Maghzaliyah
11. Tell Sotto
12. Kül Tepe
13. Tell Afar
14. Tell al-Rimah (KARANA)
15. Tell Taya
16. Telul eth-Thalathat
17. Tell Muhammed 'Arab
18. NINEVEH
19. Arpachiyah
20. Tepe Gawra
21. Billa
22. Tell Gomel
23. Banahilk
24. Hassuna
25. Gird Ali Agha
26. Qalinj 'Agha
27. Shemshara
28. Umm Dabaghiyah
29. HATRA
30. ASSUR
31. NUZI
32. Kudish Saghir
33. Matarrah
34. Jarmo
35. Bagum
36. Gerdi Resh
37. Samarra
38. Tell es-Sawwan
39. NEREBTUM (Ischali)
40. Khafajah
41. Tell Asmar (ESHNUNNA)
42. Tell Agrab
43. Choga Mami
44. Dhiba'i
45. Tell Harmel
46. Tell ed-Der
47. SIPPAR (Abu Habbah)
48. Tell Uqair
49. Jamdat Nasr
50. Ishan Mizyad
51. Ras al'Amiya
52. BABYLON
53. KISH
54. Umm al-Jir
55. Tell Abu Salabikh
56. Tell Al-Wiliyah
57. NIPPUR
58. Umm al-Hafriyat
59. ISIN
60. ADAB
61. UMMA
62. Fara (SHURUPPAK)
63. Tello (GIRSU)
64. Al-Hiba (LAGASH)
65. Surghul (SIRARAN)
66. Tell Mismar
67. Warka (URUK)
68. Qal'at Hajji Muhammed
69. LARSA
70. Tell el-'Oueili
71. Ubaid
72. UR
73. ERIDU

Iran

74. SUSA
75. Sharaffabad
76. Choga Mish
77. Tepe Jowi
78. Tepe Musyan
79. Tepe Sabz
80. Giyan
81. Godin
82. Dalma-Tepe
83. Hasanlu
84. Hajji Firruz
85. Pisdeli

Himrin Salvage Project (inset)

1. Tell Khallaweh
2. Tell Madhur
3. Tell Ahmad al-Hattu
4. Tell Razuk
5. Tell Atiqeh
6. Tell Rihan
7. Tell Rubeidheh
8. Tell Abqa'
9. Tell Genj
10. Tell Kheit and Tell Abu Qassem
11. Tell Hasan
12. Tell Yelkhi
13. Tell Abu Husaini
14. Tell Ababra
15. Tell 'Uwiesat
16. Tell Hadad and Tell as-Sib (= ME-TURNAT)
17. Tell Gubba
18. Tell Songor (A,B,C,)
19. Tell al-Zawiyeh
20. Tell as-Suliemah (also spelled Sleima) (AWAL)
21. Tell Ayyash
22. Tell Abada
23. Tell Rashid

Alphabetical List of Sites

Syria, Iraq, Iran

LAGASH (al-Hiba), 64
LARSA, 69
Magzaliyah, 10
MARI, 1
Matarrah, 33
NEREBTUM (Ischali), 39
NINEVEH, 18
NIPPUR, 57
NUZI, 31
Pisdeli, 85
Qal'at Hajji Muhammed, 68
Qalinj 'Agha, 26
Ras al-'Amiya, 51
Samarra, 37
Sharaffabad, 75
Shemshara, 27
SHURUPPAK (Fara), 62
SIPPAR (Abu Habbah), 47
SIRARAN (Surghul), 65
SUSA, 74
Tell Abu Salabikh, 55
Tell Afar, 13
Tell Agrab, 42
Tell al-Rimah (KARANA), 14
Tell al-Wilayah, 56
Tell Aqab, 5
Tell Asmar, 41
Tell Brak, 6
Tell ed-Der, 46
Tell el-'Oueili, 70
Tell es-Sawwan, 38
Tell Gomel, 22
Tell Harmal, 45
Tell Leilan, 7
Tell Mismar, 66
Tell Muhammed 'Arab, 17
Tell Sotto, 11
Tell Taya, 15
Tell Uqair, 48
Tello (GIRSU), 63
Telul eth-Thalathat, 16
Tepe Gawra, 20
Tepe Jowi, 77
Tepe Musyan, 78
Tepe Sabz, 79
Ubaid, 71
UMMA, 61
Umm al-Hafriyat, 58
Umm al-Jir, 54
Umm Dabaghiyah, 28
UR, 72
URUK (Warka), 67
Yarim Tepe, 9

Himrim Salvage Project

AWAL, 20
ME-TURNAT, 16
Tell Ababra, 14
Tell Abada, 22
Tell Abqa', 8
Tell Abu Husaini, 13
Tell Abu Qassem, 10
Tell Ahmad al-Hattu, 3
Tell al-Zawiyah, 19
Tell as-Sib, 16
Tell Atiqeh, 5
Tell Ayyash, 21
Tell Genj, 9
Tell Gubba, 17
Tell Hadad, 16
Tell Hasan, 11
Tell Khallaweh, 1
Tell Kheit Qasim, 10
Tell Madhur, 2
Tell Rashid, 23
Tell Razuk, 4
Tell Rihan, 6
Tell Rubeidheh, 7
Tell Sleima, 20
Tell Songor, 18
Tell Suliemah, 20
Tell 'Uwiesat, 15
Tell Yelkhi, 12

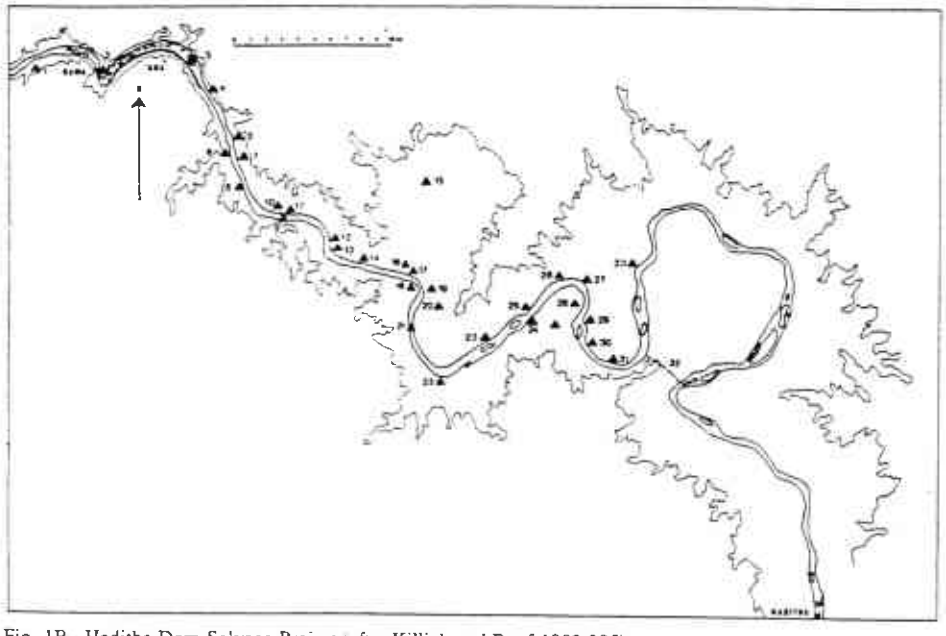

Fig. 1B. Haditha Dam Salvage Project (after Killick and Roaf 1983:205).

1. Meshed
2. Rawa Castle
3. 'Ana Island
4. Dawali
5. Khaliliyeh
6. Mujeddideh
7. Tell Abu Thor
8. Qasr and Quseiriyeh
9. Telbis Island
10. Judeideh
11. Sur Telbis
12. Kifrin
13. Muqaber Majwal
14. Sahliyeh
15. 'Anbeh
16. 'Amriyeh
17. 'Uladiyeh
18. 'Usiyeh
19. Bechariyeh
20. Tell Yemniyeh
21. Bijan Island
22. Fuheimi
23. Zawiyeh
24. Glei'eh
25. Sur Jur'eh
26. Sur Muhreh
27. Muhreh
28. Shuweimiyeh
29. Nufeili
30. Jo'aneh
31. Mawrid
32. Sur Umm al-Khawashij
33. Suwari (Ta's al-Kuffar)

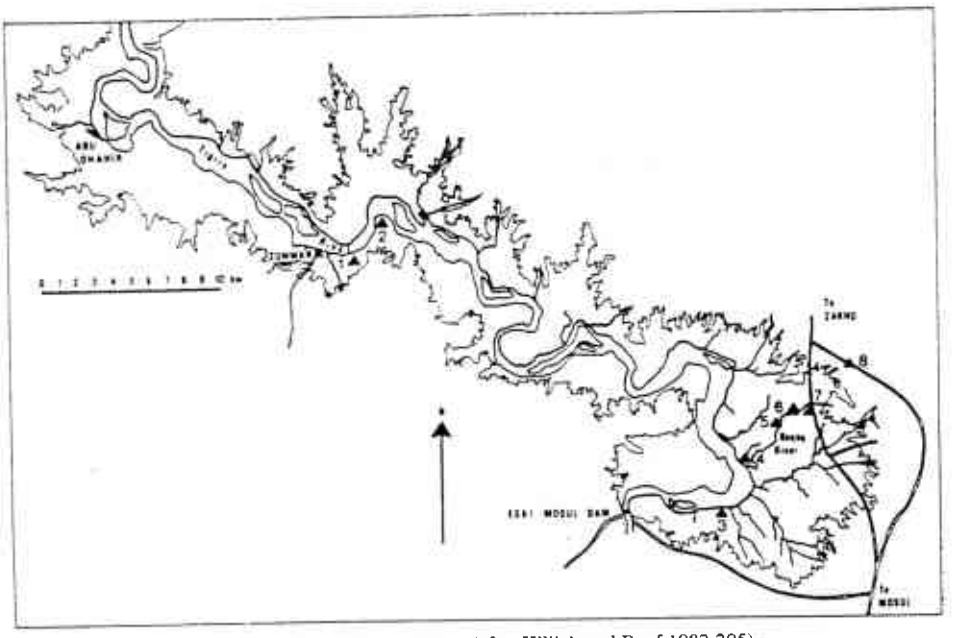

Fig. 1C. Saddam (Eski Mosul) Dam Salvage Project (after Killick and Roaf 1983:205).

1. Tell Selal
2. Tell Museifneh
3. Tell Mohammed 'Arab
4. Tell Jikan
5. Tell Grai Qasim
6. Tell Baqaq 1
7. Tell Baqaq 2
8. Tell Jumbur

Charts of Chronological Relations and Characteristic or Significant Artifacts: Figures 2–5

The sites chosen for schematic representation are limited to those mentioned in the present chapter. However, not all sites mentioned are listed. The dating of levels to absolute numbers is not to be taken as definitive and is subject to change. Correlation of levels, though schematically suggested in the present charts, cannot be made with any certainty on the basis of even several distinctive traits. Levels are arbitrarily shown as of uniform duration unless indications to the contrary were given in the excavation report. In figure 2, sites are listed more or less chronologically from left to right, with the earliest on the left. In figures 3–5, sites are listed geographically from left to right, with the north at the left. The illustrations are arranged in general chronological order from the bottom of the page to the top. Because of space, not all of the illustrations correspond with the dates in the column at the side of the charts (for example: fig. 2 4–10). However, the illustrations for each period are contained in a box, and, except for figure 4 (Early Dynastic IIIb and Isin-Larsa) and figure 5 (Akkad, Ur III, and Isin-Larsa), the chronological term for a given group of illustrations corresponds to the date for the suggested beginning of the period. In the illustration columns for figures 2 and 3, the chronological terms for the northern sequence appear on the left, and those for the southern sequence on the right. Figures 4 and 5 are intended to be used together, and the illustrations for the north and south are not separated. The scales are not exact and are included to indicate relative size only. Pottery profiles appear either on the left or the right according to the way they were published. Some of the decoration on the pottery had to be simplified.

Fig. 2. Mesopotamia, ca. 7000–5000 B.C.

Fig. 1 Mesopotamia, the South, North

FIGURE 11

Fig. 4 Mesopotamia, ca. 3000–1600 B.C., part 1

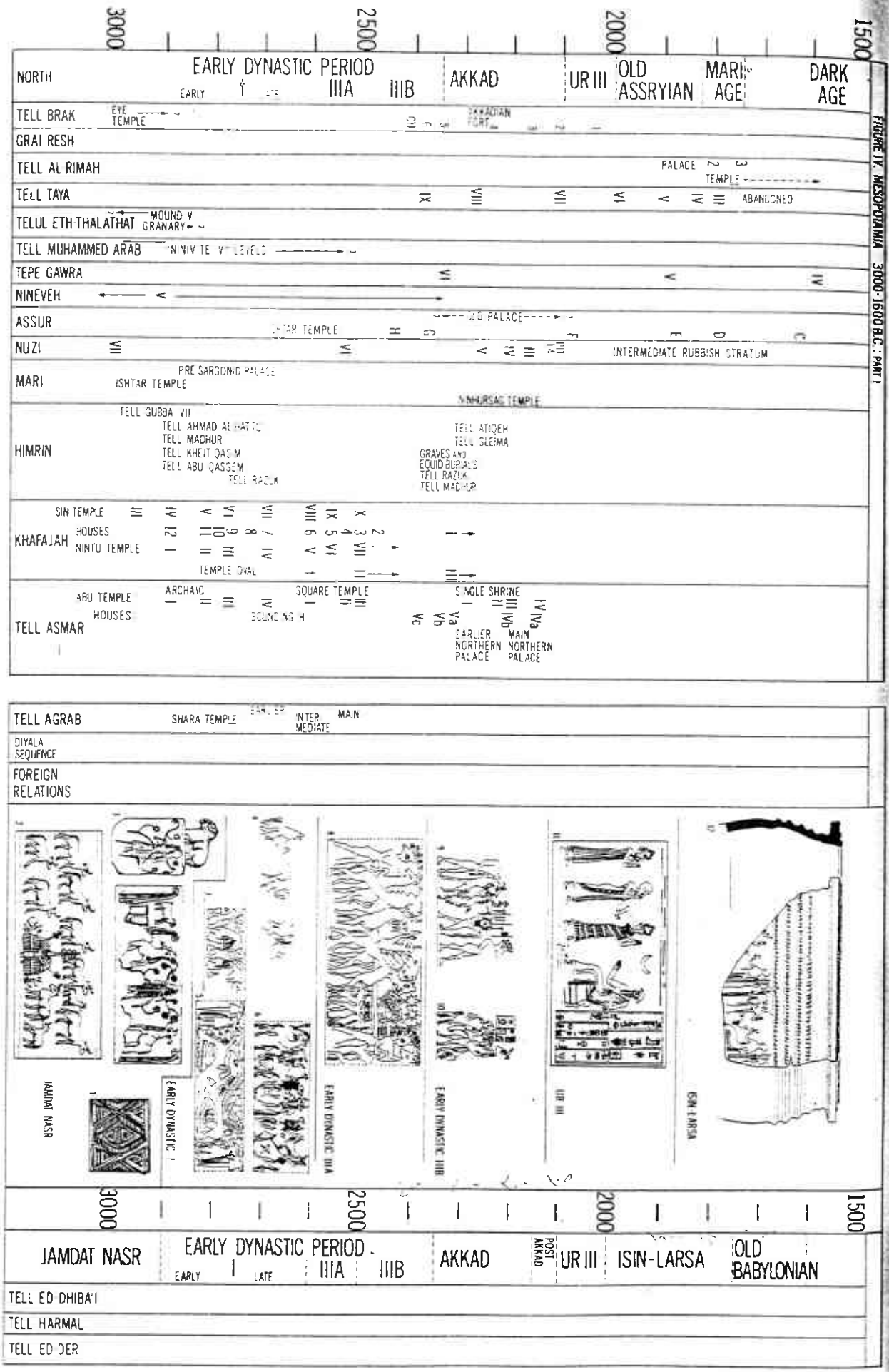

FIGURE IV. MESOPOTAMIA 3000-1600 B.C.: PART I

FIGURE V. MESOPOTAMIA 3000-1600 B.C.: PART 2

Fig. 5. Mesopotamia, ca. 3000–1600 B.C., part 2.